



**TOGETHER**  
*for a sustainable future*

## OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.



**TOGETHER**  
*for a sustainable future*

## DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

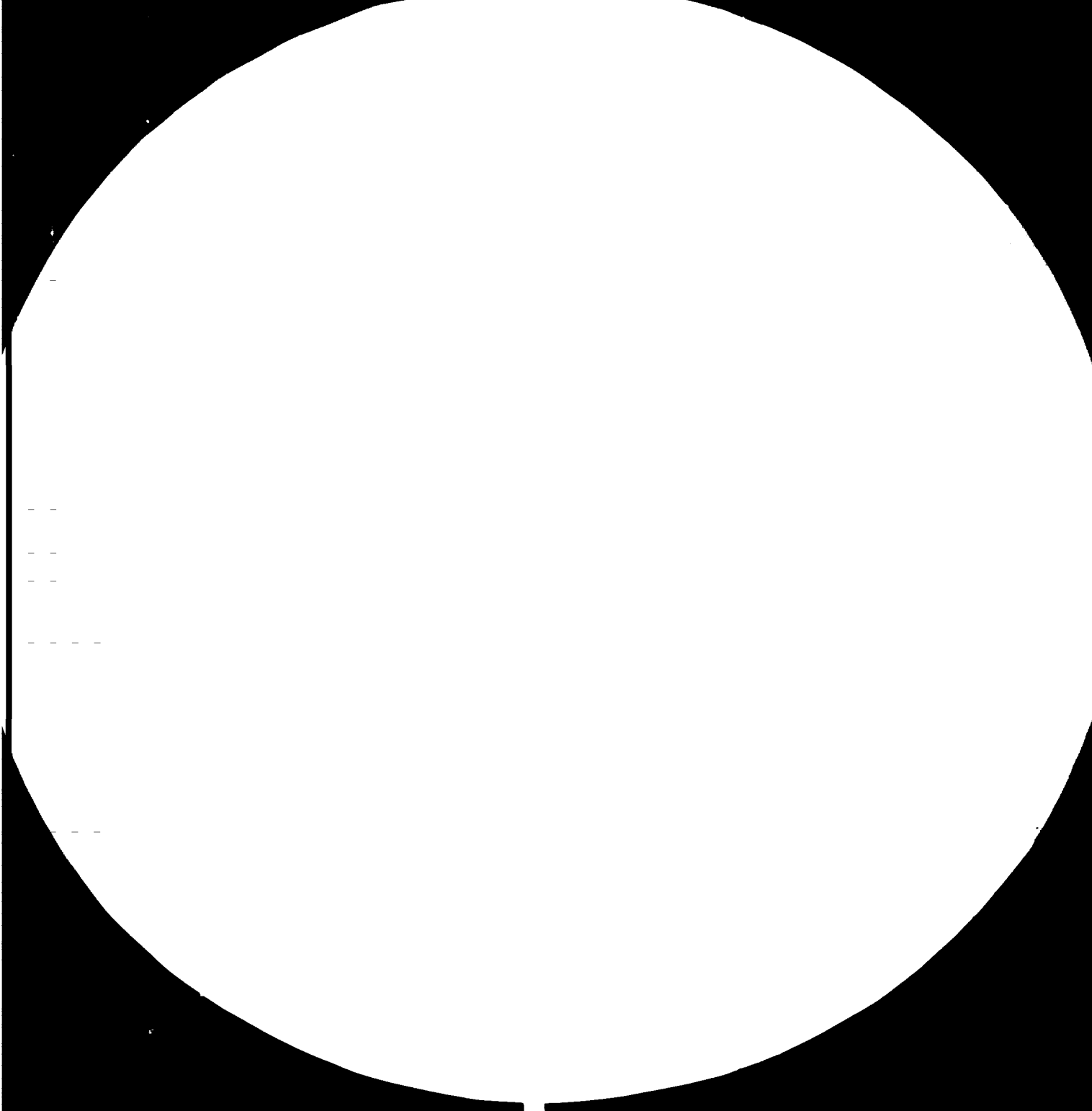
## FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

## CONTACT

Please contact [publications@unido.org](mailto:publications@unido.org) for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at [www.unido.org](http://www.unido.org)





2.8



3.2



3.6

4.0



Microcopy Resolution Test Chart (NBS 1963-A)

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

*SIID - Report Section*

January 18, 1982

11705

ESTABLISHMENT OF  
INDUSTRIAL ESTATES  
IN  
MANO RIVER BASIN PROJECT AREA .

Report by  
Krishan D. Khosla  
Consultant  
United Nations Industrial Development Organization  
Vienna, Austria

SI/RAF/81/801

This report has not been formally edited. The views expressed in the report are those of the author and do not necessarily reflect those of the Secretariat of UNIDO.

3243

I would like to put on record my sincere thanks and appreciation of the co-operation, assistance and hospitality received from Mr. Ch. Zimmermann, the backstopping officer of this project in UNIDO, the UNDP offices in Freetown and Monrovia, the Senior Industrial Development Officer, Mr. I. Contreras, and the various organizations visited in the course of the mission.

C O N T E N T S

Page:

<u>Summary of Recommendations</u>	6 - 10
- Introduction	8
- Background	8
- Objectives	8
- Project Activities	9
- Field Study	9
- Report	10
<u>Part I - Mano River Union</u>	11 - 15
- Formation	11
- Membership	11
- Functions	11
- Industrial Development	12
- Identified Union Industries	12
- Supplementary List of Potential Union Industries	13
- Conclusion	15
<u>Part II - General + Industrial Review of Liberia</u>	16 - 19
- General Aspects	16
- Infrastructure Facilities	16
- Natural Resources	16
- Development Constraints	17
- Industrial Sector Performance	17
- Institutional Support to Industry	17
- Industrial Estates and Areas	18
- Future Industrial Development Programme	18
<u>Part III - General + Industrial Review of Sierra Leone</u>	20 - 24
- General Aspects	20
- Infrastructural Facilities	20
- Natural Resources	21
- Development Constraints	21
- Industrial Sector Performance	22

- Institutional Support to Industry	23
- Industrial Estates and Areas	23
- Future Industrial Development Programme	23
- Conclusion	23
<u>Part IV - Mano River Basin Development Project</u>	25 - 35
- Objectives	25
- The Dam and Hydro-Electricity	25
- Resettlements	26
- Agriculture Development	27
- Industry-based Inputs	31
- Fishery Development	32
- Forestry Development	33
- Other Developments	35
- Conclusion	35
<u>Part V - Industrial Estates + Industrialization</u>	36 - 38
- Definition	36
- Objectives	36
- Promotion Aspects	36
- Ensuring Success	37
- Industrial Estates in Depressed Areas	37
- Conclusion	38
<u>Part VI - Development of Industrial Estates</u>	39 - 51
- A/Mano River Basin + Hinterland	39
- B/Mano River Union Industries + Industrial Estates/Areas	45
- C/Industrial Estates/Areas in Liberia + Sierra Leone	50

Annex I - List of Persons with whom discussions were held	52 - 54
Annex II - List of publications etc. consulted	55 - 59
Annex III - Mano River Union	60 - 72
Annex III/Appendix A: Organization Chart of MRU (present)	73
Annex III/Appendix B: Proposed Organization chart of MRU	74
Annex III/Appendix C: Definitions related to Union Industry Status	75
Annex IV - General and Industrial Review of Liberia	87 - 95
Annex IV/Appendix A: Value added by economic sector 1968 - 1977	96
Annex IV/Appendix B: Value of exports 1970 - 1978	97
Annex IV/Appendix C: Value of imports 1970 - 1978	98
Annex IV/Appendix D: Balance of payments	99
Annex IV/Appendix E: Summary External debt + debt- servicing situation	100
Annex V - General + Industrial Review of Sierra Leone	101 - 112
Annex V/Appendix A: Distribution of GDP at 1972/73 prices	113
Annex V/Appendix B: Production of Major agriculture crops	114
Annex V/Appendix C: Export of agriculture produce	115
Annex V/Appendix D: MAF estimated national production of major crops	116
Annex V/Appendix E: Administrative set-up for industrial development after re-organization of Ministry of Trade and Industry	117
Annex VI - Industrial Estate + Industrialization	118 - 125
Annex VI/Appendix A: Main characteristics of different concepts	126 - 127



Summary of Recommendations

1. It is assessed that the Mano River Basin Development Project and natural resources of the hinterland of the Mano River Basin have adequate industrial potentials justifying the establishment of industrial estates/areas. However, their immediate development is not recommended on account of the following considerations:
  - i) It is only forestry-based industrial opportunities like sliced veneer, destructive distillation of wood, etc., which have scope for development by 1984. These are not enough for justifying the establishment of a viable industrial estate or an area;
  - ii) The clearance of the reservoir area which is to yield wood will be taken up only when the Project is launched and for that donor countries have yet to commit funds. The general impression is that it might be possible to implement the Project as per the schedule recommended in the Mano River Basin Development Project;
  - iii) The agriculture and fishery developments are scheduled only for 1990 and then alone these are to throw open a number of industrial opportunities suitable for being accommodated in industrial estates/areas. Growth poles viz: Kongo in Liberia and Zimmi in Sierra Leone could be reviewed at a later stage for promoting industrial estates/areas.
  - iv) The area under consideration lacks entrepreneurship, industrial skills, surplus labour and social amenities for personnel brought into the area for establishing industry. No foreign investors have exhibited interest in making investments in the area except in the field of extraction of minerals, and that activity does not require facility in the form of an industrial estate or an area.
2. The development of industrial estates/areas in the Mano River Basin should be reviewed again around 1985. By that time the fluid situation should have crystallised. In the meantime programmes like entrepreneurship development, industrial extension service, mobilization of investible funds etc. should be organized.
3. For expeditious and effective development of Union Industries in line with the needs of Member States, the programme for establishment of nucleus plants and ancillary industrial estates for the satellite enterprises should be undertaken.
4. The introduction of a system as per 3. above will entail modifications in the licensing procedure and investment incentives, like introduction of off-loading of certain activities to satellite enterprises by the nucleus plants, adoption of strict quality control and production schedule measures by the satellite enterprises, ensuring of justifiable prices for parts, components and sub-assemblies manufactured by the satellite enterprises for nucleus plants and ensuring timely payment to satellite enterprises, etc. This job should be taken up soon after the recommended concept is accepted.

5. There is ample scope for organising artisans like carpenters, weavers, cloth printers etc. in Liberia and Sierra Leone and up-grading their skills and enhancing their productivity. To do so, a start with rural industrial estates along with production centres/common facility centres and industrial extension service should be made on experimental basis. Further expansion can be undertaken based on the experience gained.
6. The Mano River Union Secretariat's role for the recommended programme in the light of its approved functions could be of a catalytic agent, particularly for drafting suitable programmes and rendering advice with respect to the implementation.
7. In Chambers of Commerce and Industry and Financial institutions, particularly the Central Banks of the countries, should be fully involved in the implementation of the programmes concerning industrial promotion including industrial estates and areas.

Thus the short-term measures recommended are:

- a) introduction of entrepreneurship development and industrial extension service programmes and strengthening of industrial information system;
- b) adopting the concept of developing nucleus plants along with a network of satellite enterprises, establishing for them ancillary industrial estates and reviewing the licensing and investment incentives procedures for Union Industries in the light of these;
- c) evaluating scope for organising rural industrial estates on experimental basis and
- d) developing a mechanism to extensively involve chambers of commerce and industry and financing institutions in all industrial promotion activities.

The long-term measures suggested include:

- a) review of the scope for development of two industrial estates/areas in the Mano River Basin in 1985;
- b) developing infrastructure facilities around growth poles Zimmi in Sierra Leone and Kongo in Liberia;
- c) strengthening programmes for developing industrial skills and
- d) developing social amenities at the two growth poles.

DEVELOPMENT OF INDUSTRIAL ESTATES/AREAS

(Mano River Basin)

Introduction

Background

The Working Committee of the Union Commission on Industry and Trade of the Mano River Union (MRU) held its ninth meeting from 5 to 10 January 1981 at Monrovia. Among other things, it gave a mandate "that the Secretariat undertakes a study on the establishment of two industrial estates/areas by the Union in the hinterland around the Mano River basin taking into consideration the projects envisaged in the Mano River Basin Development Plan."

The MRU Secretariat vide letters of April 30, May 13 and June 1, 1981 requested assistance from the United Nations Industrial Development Organization to implement the above-mentioned mandate in co-operation with MRU Secretariat, particularly the Economic Affairs Division, the Industrial Development Unit, the Legal Office and the Mano River Basin Development Supervisory Unit. UNIDO accepted the proposal and formulated a Project to undertake the study.

Objectives

The development objectives of the study were listed as to analyse the situation and make suggestions for the creation of favourable conditions for an expansion of mutual production capacity. The immediate objectives of the Project were limited:

1. To study the general possibility of establishing two viable industrial estates and/or areas within the Mano River Union around the Mano River Basin Development Area.
2. To review the Mano River Basin Development Project in order to ascertain if there is any justification for the establishment of industrial estates and/or areas and suggest tentative locations.
3. If 1. and 2. above are positive, elaborate the terms of reference for a detailed feasibility study on the establishment of two industrial estates and/or areas by MRU and suggest a suitable location within the Mano River Basin.

In short the study is expected to indicate if further research work is necessary and a detailed feasibility study is recommended for the establishment of two industrial estates/areas with the Mano River Basin.

### Project Activities

UNIDO deputed a consultant in establishment of industrial estates and terms of reference of his mission were limited to:

1. Studying the general possibility of establishing two viable industrial estates/areas (as mentioned above) and for that he should also analyse the existing infrastructure in the area and plans therefore.
2. Reviewing of the Mano River Basin Development Project for ascertaining economic justification for establishment of industrial estates/areas.
3. Undertaking of an analysis of the industrial development, including the development trends in the member countries and in the Mano River Basin indicating potential projects which could be set up within the industrial estates in the Mano River Basin.
4. Elaborating in case of study yielding positive results, on the terms of reference for a detailed feasibility study for the proposed industrial estates and also suggesting suitable locations, sizes, etc.

### Field Study

The consultant was expected to travel in the Member States of MRU, namely Sierra Leone, Liberia and Guinea as well as the Mano River Basin. However, the MRU Secretariat did not consider travel to Guinea necessary since the location of industrial estates/areas was expected to be in the Mano River Basin Development Project Area and that was situated in the States of Liberia and Sierra Leone.

He conducted the study from December 7, 1981 to January 27, 1982. He worked in close co-operation with the Economic Affairs Division, the Industrial Development Unit, and the Basin Development Supervisory Unit of the Mano River Union. He visited the Mano River Basin, and in Sierra Leone and Liberia the existing industrial estates/area/zone/park, some industrial enterprises, local markets and met responsible persons in various ministries and organizations concerned with industrial development, resources development, infrastructure facilities development, financing institutions, chamber of commerce and industry etc. and also conversed with some entrepreneurs. The list covering most of the contacts made is given in Annex I. He also studied the available relevant literature, the list of which is given in Annex II.

Report

The report broadly is divided into two parts. The first part reviews briefly

- a) the formation and functions of Mano River Union with special reference to industrial development;
- b) the general and industrial status, future industrial development programmes and use of concept of industrial estates and areas in Liberia and Sierra Leone, i.e. the states surrounding the Mano River Basin Project Area and
- c) the Project, particularly its parts dealing with development of agriculture, industry and infrastructure. The information contained in the first part brings out the dimensions of industrial potentials broadly of the two States and Union industries and more specifically of the Mano River Basin.

The second part deals with the concept and other aspects of industrial estates and areas, and analysis and scope of their application in the Mano River Basin. specifically, and also in relation to development of Union industries for the benefit of artisans in Liberia and Sierra Leone.

The draft of the report was submitted to the MRU Secretariat on January 18, 1982 and it was finalised in the light of the discussions held on January 21 and 22, 1982.

## PART I - MANO RIVER UNION

### Formation:

The seed of the Mano River Union was sown in August 1964 during the Free Trade Area Conference. The next step was taken in 1971 through the establishment of a Joint Ministerial Committee charged with the responsibility of handling all matters pertaining to economic and social co-operation between the two countries viz: Sierra Leone and Liberia. Based on its recommendations UNDP deputed a mission which in February 1973 recommended

- a) establishment of a Customs Union between the two countries, and
- b) formulation and implementation of policies for co-operation in agriculture and industry.

The Presidents of Sierra Leone and Liberia on October 3, 1973 signed the Mano River Declaration creating Mano River Union (MRU). Its main objectives set forth were:

1. intensification of economic co-operation;
2. accelerating the economic growth, social progress and cultural advancement, and
3. establishment of a firm economic foundation for lasting peace, friendship, freedom and social progress.

### Membership:

The MRU contemplates the participation of other States in the Western Africa sub-region, subscribing to the aims and objectives of the Union and provides for either limited participation or full membership. The Peoples Revolutionary Republic of Guinea acceded to the Mano River Declaration and joined MRU in October 1980 as a full member. The basic legal source of MRU is the Declaration as amended and/or supplemented by Protocols (up to the end of 1981 nineteen Protocols have been added).

### Functions:

MRU is essentially a Customs Union. Therefore it implies:

1. Liberalisation of mutual trade in goods of local origin through elimination of tariff and new tariff barriers;
2. Harmonization of rates of import duties and other fiscal incentives applicable to goods of local origin to ensure fair trading conditions and uniform protective policy for local procedures.

MRU is also engaged in introduction of measures as may be considered necessary for developing co-operation in the production of agricultural and manufactured products of local origin.

Industrial Development:

The relevant information about the MRU organization, functions and activities, policies for promotion of Union industries etc. is given in Annex III. It could be observed therefrom that MRU has a developed mechanism for undertaking promotion of industrial estates/areas if those form feasible propositions for achieving accelerated industrial growth. The sponsor of Union industry can seek for Union Investment Incentive Contract which provides advantages like:

- Union tariff protection;
- Unrestricted transfer of funds within and outside the Union for normal commercial purposes;
- Drawback of import duties paid on materials used or component parts in producing goods exported from the Union or warehoused for export;
- Use of industrial estates when available and suitable;
- Exemption from income tax for a period to be determined by the Commission;
- Exemption from payment of import duties on approved imports of machinery and equipment to be used in the establishing the approved investment project;
- Exemption of up to 90 percent from the payment of import duties on raw materials and semi-processed products of the approved investment project;
- Compensation to the investor or sponsor for any economic disadvantage he may suffer as a result of location in a place other than that proposed by him.

Identified Union Industries:

The Union Commission on Industry and Trade has certified the suitability of the industries mentioned in Table I below for consideration as Union Industries.

<u>Serial No.</u>	<u>Name of Industry</u>	<u>Location</u>	<u>Status of Implementation</u>
1	Agriculture tools and Implements	Sa. Leone	Being implemented
2	Sardinella Fishery Fleet	Sa. Leone	Temporarily withdrawn
3	Fruit + Vegetable Processing	Sa. Leone	Implemented but not in operation
4	Cassava Pelletising	Liberia	Being implemented
5	Glass Container Production	Liberia	Being implemented
6	Soap and detergent production	Liberia	In production
7	Synthetic textile production	Liberia	No progress
8	Cotton textile production	Sa. Leone	No progress

<u>Serial No.</u>	<u>Name of Industry</u>	<u>Location</u>	<u>Status of Implementation</u>
9	Integrated textile complex		Temporarily withdrawn
10	Dry cell battery production		Temporarily withdrawn
11	Rubber products production		Project evaluated
12	Steel rolling mill		No progress
13	Pulp and/or paper production	Liberia	Project evaluated
14	Edible oil production	Sa. Leone	No progress
15	Alumina production	Sa. Leone	No progress
16	Jute and jute substitute processing	Sa. Leone	Being implemented
17	Salt production	Sa. Leone	Project evaluated
18	Cocoa processing		No progress
19	Coffee processing		No progress

(Source: Investors Guide - Industrial Development Unit - Mano River Union)

Some further work has been done in project identification. The import pattern of the Member States has been studied along with market expectations. It has been further scrutinized from the angle of the anticipated overall positive development impacts on the economies of the three Member States. The findings are mentioned in Table II below:

Supplementary List of Potential Union Industries

<u>Serial No.</u>	<u>Production Activity</u>	<u>Remarks</u>
1	Instant Coffee	Project profile available
2	Tomato juice and tomato concentration plant	Project profile available
3	Natural yeast	Project profile available
4	Soup concentrates in cubes	Project profile available
5	Starch and glucose from Cassava	Project profile available
6	Fish canning plant - Inland	



<u>Serial No.</u>	<u>Production Activity</u>	<u>Remarks</u>
7	Mobile palmoil mini-mill	Project profile available
8	Poultry farming	
9	Animal feed plant - enriched roughage and supplements	Project profile available
10	Artificial leather	Project profile available
11	Charcoal production plant	
12	Wood-fired power plants	
13	Rubber processing, excluding tyres and tubes	
14	Paper pulp	
15	Wrapping paper	
16	Garment production for exports	Project profile available
17	Biogas production	
18	Glass fibre reinforced polyester products	Project profile available
19	Pharmaceutical products	Project profile available
20	Synthetic paints and coatings	Project profile available
21	Detergents granular, solid and liquid	Project profile available
22	Insecticide production	
23	Bleach production	
24	Plastic pipe production	
25	Spare parts workshop	Project profile available
26	Maintenance Workshop for Vehicles	Project profile available

(Source: Investment Guide - Industrial Development Unit - Mano River Union)

Identification of suitable projects industries is a continuous process. Further work on the subject is in progress.

Conclusion:

The progress made is remarkable in respect to developing principles and policies for promotion of Union Industries, creation of an institution for identification of suitable industrial opportunities and project formulations and evaluation, building up of industrial information, introduction of a viable system for identification of Union industries, issuing of manufacturing licenses, execution of Union Incentive Contracts, provision of Union Guarantee and monitoring the implementation of accepted projects. Of course, further improvements as felt necessary through experience will be brought in. Further the other pipeline projects like organizing trade fairs, establishment of Union Technology Development Centre should provide added boost to accelerated growth of Union Industries. The envisaged programme of industrial estates/areas should be significantly helpful in enabling the MRU to ensure accelerated industrial growth of the Member States.

## PART II - GENERAL AND INDUSTRIAL REVIEW OF LIBERIA

### General Aspects:

The area of Liberia is 111.400 square kilometers and the population in 1979 was around 1.8 million. The average annual per capita income during 1979 was US\$ 470 and total labour force was about 508.000. There is significant unemployment. The gross domestic product at 1975 constant prices was US\$ 626.6 million in 1977. The share of manufacturing activities was 9.3 per cent whereas in 1968 it was 3.8 per cent. The level of exports during 1978 was US\$ 486.3 million. Iron ore dominated exports and second position was rubber. Exports have been growing at a rate of 5 per cent per annum. The total imports during 1978 amounted to US\$ 480.4 million. The maximum share was of machinery and equipment which was followed by the manufactured goods. Imports have been growing annually at a rate of 13.6 per cent. Liberia has favourable balance of trade. Since exporters have been keeping their earnings abroad, the country has been having unfavourable balance of payment. The outstanding and disbursed internal debt at the end of 1978 was US\$ 341.5 million. Only 35 per cent of the borrowings are directly related to projects aimed at increasing production, GDP and exports.

### Infrastructure Facilities:

There were 4.542 miles of road in 1974 of which 3.148 miles were public roads and out of that 208 miles were asphalted; 1.675 miles were laterite and 1,265 miles dry weather roads. The length of railway line is 300 miles. There are four main seaports, namely Monrovia, Buchanan, Greenville and Cape Palmas. These handled in 1975, 545.000 tons of general cargo and about 18 million tons of iron ore. There were 2.667 vessels in 1977. There are two international airports and 15 for internal flights. There are 8.400 telephones, 2 radio stations and a television station. In 1977 the public power supply capacity was 399 million kwf. Further expansion is on hand. It is 60 cycle and 110 volts supply.

### Natural Resources:

The main agriculture crops are rice and tree crops. Important cash crops include rubber, coffee, cocoa and palmoil. The forest reserves are considerable and yield wood between two to three million cubic meters. The export earnings during 1978 amounted to US\$ 54.9 million. The government has introduced "processing rules" to enhance forest-based manufacturing activities. Iron ore deposits dominate the mineral resources. The other important ones are diamonds and gold. The other known minerals include copper, lead, zinc, heavy mineral sand, barites and kyanite. There is ample scope for development of fishery and livestock.

### Development Constraints:

The areas restricting industrial growth of the country have been mainly:

1. Shortage of competent managerial and technical personnel;
2. Non-existence of well co-ordinated and self-sustaining institutional infrastructure and limited availability of physical infrastructure;
3. Shortage of funds, with the Government in particular, for strengthening the development of infrastructure and hesitation by the financing institutions to extend credit facilities liberally to the manufacturing enterprises;
4. The small size of the domestic market and incapacity to develop export markets for resource-based activities.

### Industrial Sector Performance:

The manufacturing sector is characterised by high capital intensity, low net value added ratio, high dependence on imports, insignificant inter-sectoral linkages, mainly producing consumer goods for domestic market and lower rates of capacity utilization. Furniture and fixture form the largest industrial group followed by beverages. Employment in manufacturing sector was 5.164 persons in 1978. Urgent needs for industrial growth are industrial information system, entrepreneurship development, introduction of industrial extension service, effective liberalized credit facilities, tariff support and export promotion measures.

The total outlay of the Development Plan was US\$ 585 million of which only US\$ 16 million was allocated to manufacturing. The plan did not include the private sector investment. Liberia follows "open door" policy to attract foreign investments. The available investment incentives include:

- 90 per cent duty exemption on imported machinery, equipment and inputs;
- Complete tax exemption on re-invested profits and 50 per cent exemption on the remaining profits;
- Rebates on export duty and excise taxes on manufactured exports;
- Accelerated depreciation, lease of land in Monrovia Industrial Park, etc.

The incentives are for five years with a possibility of two years extension. However, inspite of all this, the pace of industrial growth is slow.

### Institutional Support to Industry

The Ministry of Commerce, Industry and Transportation is the main institutional organ involved in initiating and implementing industrial policies and programmes. The Liberian Bank for Industrial Development and Investment assists in the establishment, expansion and modernisation of private productive sector. The National Investment Commission caters to industrial investment promotion for large, medium and small-scale enterprises; enhancing inter-sectoral linkages; dispersed growth of

enterprises, providing technical, management and marketing extension services and furthering the cause of industrial enterprises for institutional credit. The Bank of Liberia has introduced a Credit Guarantee Scheme so as to encourage the number of Commercial Banks existing in the country to liberally extend credit to industry. However, its implementation is rather slow.

Industrial Estates and Areas:

There is an Industrial Free Zone at Monrovia, covering 113 acres of land. It has space for some 70 firms. It provides attractive facilities for export-oriented enterprises which include tax and duty free import of machinery, raw materials, etc., exemption from import and export duties indefinitely, total exemption from corporate income tax for five years and later not less than 75 per cent exemption, etc. There is also an Industrial Park in Monrovia, on 1.100 acres of which 244.8 acres have been leased and another 113.6 acres allotted. There are 13 firms on the Park. The infrastructure facilities are inadequate. The Government is favourably inclined to extend such facilities to other parts of the country.

Future Industrial Development Programme:

The National Investment Commission is building up institutional structure for identification of suitable industrial opportunities, providing industrial information about them, preparing project profiles, developing entrepreneurship and assisting them in obtaining institutional credit. The projects engaging active consideration of the Commission during November 1981 were

- rubber processing,
- tropical agriculture products (pineapples, etc.)
- ice cream
- timber processing
- paper, plastic and other woven bags
- dry battery cells
- car batteries
- PVC pipes
- bouillion cubes
- alcoholic beverages
- insecticide formulations
- furniture
- paints
- card board cartons
- cocoa processing
- stationery
- biscuits and confectionery
- locally made garments
- alcohol
- building materials
- mattresses

- steel re-rolling
- cosmetics and soap
- fishery
- plastic products
- PVC slippers and sandals, and
- textiles.

Relevant additional information about the country is given in Annex IV. The necessary references to the data given above are also there.

### PART III - GENERAL AND INDUSTRIAL REVIEW OF SIERRA LEONE

#### General Aspects:

Sierra Leone is situated on the West Coast of Africa and its neighbours are Guinea and Liberia, with a coast line of about 300 miles. Its area is 27.925 square miles and the population for 1980 is estimated at 3.186 million. Its labour force as per 1974 census was 1.11 million and 0.048 million persons were employed in manufacturing at that time. The number of persons listed as unemployed in May 1981 was 14.382. The average per capita income at current prices in 1980 was Le 255.7 (US\$ 1 - Le 1.20). The total Gross National Product at factor cost was Le 840.5 million in 1980 and the gross fixed capital formation was Le 140 million. The Gross Domestic Product at factor cost at 1972-73 prices was Le 395.8 million in 1978-79 and during the year the percentage share of manufacturing and handicrafts was 6.8. The consumer price index in Freetown (1961 = 100) stood at 366.4 in 1980. The whole-sale price index of all commodities (1975 = 100) was 251 in 1980.

The total exports in 1980 amounted to Le 228.84 million out of which the diamonds share stood at Le 153.70 million and of palm kernels, coffee, cocoa, piassava, ginger, etc. was Le 70.59 million. The value of imports during 1980 was Le 470 million. Machinery and equipment dominated the imports following manufactured goods, petroleum products and food items. The visible balance of trade and balance of payment have been negative for a long number of years; the corresponding figures for 1979 being Le 129.36 million and Le 85.22 million. The total external debt increased to Le 397 million by end of 1980 from Le 331 million at the end of 1979.

#### Infrastructural Facilities:

Sierra Leone has no railways. Roads are in need of upgrading and repairs. Maintenance work for 440 miles of roads, resurfacing of 200 miles and rehabilitation of 370 miles of gravel roads has been taken up. A number of inter-provincial highways have been built and a project is under way for building highway connecting Sierra Leone with Liberia. There is only one international airport, namely Lungi. Freetown is reported to have one of the finest natural harbours in the World and the port is well provided with modern facilities. The cargo handled in 1980 stood at 529,782 tons. There are 12 automatic telephone exchanges having installed capacity of 11,600 lines connected by microwave radio links spanning distance of 416 miles. There is an earth satellite station used for international telephone, telex, telegraph, data and facsimile communication messages on 24 hour basis. Private circuits have also been leased. Radio and television stations are there.

There are 22 electricity stations having installed capacity of 58,000 KW in 1980. Distribution is done at 50 cycles of 230 volts and 415 volts. There are power breakdowns. The Bumbuna Hydroelectric Project will supplement the electricity supply.

Natural Resources:

The agricultural statistical survey of 1970-71 showed that there was 13.24 million acres of arable land of which 1.30 million acres were under cultivation and 0.79 million acres under forests. Recently large-scale farms have been established for ginger, palm oil, rubber, coconuts, etc. Rice, palm oil, palm kernels, coffee, ginger, cocoa and kola nuts are the main crops. Cassava, groundnuts, sweet potatoes, oranges, bananas and plantains are the other agriculture produce. The soil, climate and water resources provide scope for vast expansion in agricultural activities, particularly to further support industrial development programmes for fruit products, sugar, distillery, rubber products, urena labata fibre and cotton-based products.

There is ample scope to expand forestry. The standing volume of national forests was estimated at 3.52 million cubic meters, and that of plantation at 0.18 million cubic meters. 95 per cent of the extracted wood is used as fuel, four per cent for construction and one per cent as sawn timber and exported logs. Industries having potentials for development are timber sawing, wood-based panels, pulp and charcoal, furniture, wood-based handicrafts and construction materials.

In spite of having immense fishery resources, fish is being imported. Fishery development could provide scope for boat building, repair and maintenance of vessels, cold storage, fish canning, fish meat, fish oil, etc. Efforts are also needed to be put in for the growth of cattle population. Diamonds, bauxite and rutile are the main minerals. The earnings from minerals have been good. Government is aware of the fact that ores are exported and no processing is done, and has initiated steps for reversing the trend. Arrangements for converting partly bauxite to alumina are being made. Gold is also being recovered from alluvial sources. There is a bright possibility of production of petroleum and natural gas. The Mineral Act is proposed to be revised to further introduce investment and processing incentives.

Development Constraints:

The areas restricting growth of industry and requiring urgent attention of the Government are mainly:

1. Small size of domestic market restricts activity;
2. Capital for investment in industry has been shy and ample opportunities exist for mobilising investable funds available with small investors.
3. Foreign investments have not come up to match with the available opportunities.
4. Existing industries largely suffer from low capacity utilization and higher cost of production which is among other things also on account of inadequacy of institutional financing and dearth of foreign exchange.



5. Inadequacy of infrastructure, physical and institutional, particularly for balanced regional industrial growth.
6. Inadequacy of industrial entrepreneurship.
7. Small-scale sector requires industrial extension service in the fields of management, production and marketing and industrial information coupled with liberal approach of the financing institutions to provide credit facilities.

Industrial Sector Performance:

The main industrial products are cigarettes, beer, spirit, industrial gasses, foam, plastic footwear, nails, paint, candles, matches, motor spirit, gas diesel, kerosene, fuel, salt, confectionery, food products, soap, paper products, knitweaves, building materials, oil milling, sugar, textiles, light engineering, etc. In 1979, there were 180 units engaged in them, employing 11,027 personnel, having investment of around Le 111 million and the estimated value of production of about Le 186 million. The small-scale sub-sector consists of around 300 to 400 units employing around 5,000 workers and engaged in activities like rice milling, tailoring, furniture making etc. It excludes artisanal establishments. Resource-based activities are few. Indigenous entrepreneurship is lacking. There is ample scope for re-orienting industrial licensing and institutional financing policies to boost up local industries. Support measures in the form of industrial extension service, infrastructure facilities, export promotion, etc. are needed for improving contribution of industry in the GDP. The index of industrial production rose to 138.4 in 1979, based on being 100 in 1977. The number of pupils in technical and vocational schools was 913 in 1979/80.

The Development of Industries Act being presently legislated provides incentives like:

- (1) Guarantees against nationalisation;
- (2) Preferential treatment with respect to granting of import licences;
- (3) Total exemption from customs duty on capital equipment, raw materials and other approved intermediate goods;
- (4) Provision of capital allowance;
- (5) Relief from surtax and income tax for five years;
- (6) Eligibility for export credit guarantee scheme;
- (7) Export tariff exemption under Custom Union arrangements.

### Institutional Support to Industry:

The Ministry of Trade and Industry is responsible for industrial development. It has three Departments viz: Co-operatives, Trade and Industry. The Industry Department has three Divisions for Planning, Operation and Small-scale Industries and is assisted by a UNIDO project. Export Promotion Council is another support organ. The Central Bank is known as the Bank of Sierra Leone. There is also a National Development Bank. It has a loaning Scheme under which 75 per cent of the cost of a Project can be financed. Credit Guarantee and Export Credit Guarantee Schemes are there. There are four Commercial Banks. They are quite reluctant in financing industry and particularly small industrial enterprises. There are Trade Unions which cover the industrial sector too.

### Industrial Estates and Areas:

There is no Industrial Estate in Sierra Leone. However, there is a Wellington Industrial Zone near Freetown which has more than 11 functioning enterprises. More or less similar type of demarcation is there in Kissy, Calaba Town and Allen Town in the Western Area. The Government is keen to use Industrial Estates/Areas concept wherein it is considered feasible to achieve fast industrial growth. A study conducted in July 1981 under a UNDP/UNIDO project for establishing an Industrial Free Zone has revealed the scope for development of an industrial estate, either at Pepel or Grafton with additional facilities for enterprises engaged in producing only for exports.

### Future Industrial Development Programme:

The Ministry of Industry and Trade is engaged in identifying suitable industrial opportunities during the next Plan Period. Some of the proposals being reviewed are: sugar mill, fruit cannery, veneer plant, textile mill, alcohol fermentation plant, cassava pellets, fish cannery, perfumery, cosmetics, pharmaceuticals, rubber processing, brooms and brush making, boat building, baby food, alumina, plastic-wares, metal beds, animal feed, builders hardware, rivets, electrical fittings, and accessories, wire products, zip fasteners, polishes, crown corks, tooth brushes, tooth paste, paper conversion products, etc.

More relevant information about the country is given in Annex V. The necessary references to data given above are also there.

### Conclusion:

Liberia and Sierra Leone have ample scope for industrial development, particularly of resource-based activities. Moreover, other opportunities based on a consumption pattern of the inhabitants can be promoted, particularly in the small-scale sector. There are groups of artisans like carpenters, smiths and weavers, who require special attention to improve their skills and productivity and expand their orbit of production. The assistance to artisans can be organized through combination of rural

industrial estates and industrial extension service. Institutional framework for the purpose will have to be developed. Industrial areas/zones have been developed in both countries. However, the results have not been fully satisfactory. There is also urgent need for introducing entrepreneurship development programme coupled with efforts to mobilise investible funds and direct those to industry. For this, industrial information service will have to be strengthened and credit guarantee scheme effectively implemented. Industrial estates/areas can be deployed as tool for pacing up industrial growth but will be effective only if this is supplemented simultaneously by other input efforts mentioned above.

## PART IV - MANO RIVER BASIN DEVELOPMENT PROJECT

### Objective:

The broad purpose of the Mano River Basin Development Project is to develop the natural and human resources in the region of the Mano River. This is proposed to be initiated through construction of a dam and generation of hydro-electric power. Thus the base of the Project becomes the development of Mano-Hydro Scheme. As a result of the dam, a large area will come under water. Consequently, the displaced persons will be re-settled and avenues of economic activity opened up for them. This itself should give rise to development of agriculture, fishery, foresting etc. Based on such developments and further to meet the daily requirements of the people living in the area there should be scope for promotion of industrial enterprises.

### The Dam and Hydro-Electricity:

The proposed site for construction of the dam is close to Kongo Town on the Liberian side and there is substantial mining activity around that place. The catchment area of the Project is 5,540 square kilometers. The long-term mean flow will be 200 cubic meters per second and mean annual in-flow volume will be 7,000 million cubic meters. The volume of the reservoir at an elevation of 135 meters will be 6,000 million cubic meters. The area of the reservoir at an elevation of 135 meters will be 320 square kilometers. The main dam will have homogenous earth fill. There will be eleven saddle dams having a volume of 57 million cubic meters on both banks of the river. The maximum height of the dam will be 65 meters. The bottom outlet capacity will be 520 cubic meters per second.

There will be an outdoor power station. It will have a generator of 70 MVA-10.3 KV with installed output capacity of 180 MW and firm output capacity of 150 MW. The plant load factor will be 0.50 and switchyard and voltage 138 KV and 230 KV. It will generate electricity both of 50 cycles and 60 cycles. There will be 130 kms transmission lines of 230 KV, 225 Kms. of 138 KV and 121 Kms. of 69 KV. There will be seven sub-stations. The area which can be economically interconnected to the Mano hydro plant attains a potential energy demand level quite beyond the available generation capacity of Mano at its commissioning date which is assumed to be 1989. At that time the lowest forecasted demand without new mining development in the area should reach 1,500 GWh per annum and the total available hydro power is expected to be only 1000 GWh (Mano and Mount Coffee plants). Only 40 per cent, i.e. 600 GWh of the forecasted demand in 1989, will come from private sector load centres which are presently autonomous for power generation. In 2000 the Sierra Leone inter-connected area will need 250 GWh. from the Mano transmission system. This will involve a large saving of fuel since it will enable all the existing thermal plants in Sierra Leone using expensive light fuel oil to be put into reserve. The two hydro schemes in Sierra Leone, i.e. Mano and Bumbuna phase I should become complementary owing to the balance of their area of influence - the first one supplying the eastern part and the second, the central and the western parts of Sierra Leone.

The production cost of electricity is estimated at US\$ 0.052 per KWh; the transmission cost at US\$ 0.010 per KWh. The cost of thermal power in Sierra Leone at present is US\$ 0.13 per KWh and in the Liberia Project area is US\$ 0.098. The attractive cost of hydro-power and the reliability of a large inter-connected system should be able to persuade a large proportion of private companies to be connected to the general grid. Mano scheme will allow more harmonious development of the eastern part of Sierra Leone since the amount of savings on energy cost is so significant that it would promote new industrial investments. Similar benefits for Liberia are anticipated. The Mano hydro scheme would become an inter-connecting and a trading point between both riparian countries. It will mark a beginning of a large grid system which in the future can link the two capitals. It could further be extended as a link in the future general inter-connection of the West African countries.

The total investment of the Project at January 1981 prices is estimated at US\$ 367.24 million which includes US\$ 5.75 million for resettlement and US\$ 59.98 million for the transmission system. This is also expected to provide irrigation facilities for 5000 hectares of land, where it has been recommended that cultivation of sugar cane and rice should be taken up. The investment on the irrigated area has been estimated at US\$ 75 million at January 1981 prices. There would be further scope for carrying out rain-fed agriculture activities in another 5000 hectares.

#### Resettlements:

The construction of the dam will bring about flooding of some 40 rural settlements scattered along the Mano and Morro Rivers and populated in 1979 with 3000 to 4000 inhabitants. They will have to be resettled. Sierra Leone will be more affected and nearly 2800 persons will have to be shifted and/or compensated. The number of such persons in Liberia will not be more than 1000. As per 1979 records compensation for dwellings will be required for 485 houses. Out of these the rectangular houses with corrugated sheet roofs are 287 and with thatched roof are 172. There are also 17 circular houses with thatched roof and one with roof of corrugated sheets. The dam is expected to be ready by 1987 and by that time the number of dwellings is estimated to be 580. Further, for housing facilities villages will be regrouped. There will be four new settlements in Sierra Leone and these shall accommodate 1020, 700, 580 and 530 persons totalling to 2850 and if the persons to be resettled in Topo is included the number shall rise to 3020.

Most of the affected persons prefer that their houses should be rebuilt with simple local materials on the basis of their own designs. As far as other facilities are concerned the first preference of the persons being displaced was motorable access roads and drinking water supply, followed firstly by a mosque and market and then by education and health facilities. It is estimated that 20 kms of 5 meter wide roads in Sierra Leone and 2 kms in Liberia will be required for the new settlements.

On the Sierra Leone side 5000 hectares or so of the high forests stretching over a range of gently undulated hills intersected by broad foot slopes and alluvial terraces between Koya and Koadi Rivers are proposed to be reallocated. On the Liberian side, the selected area covers about 2000 hectares and is expected to receive about 750 persons. It is located in the high forests, ten kilometers to the east of Kongo in a gently undulated zone along the most southern fringe of the reservoir. In the upper part of the flooded area, the rural settlements along the Morro River will be simply shifted, when necessary, a four hundred meters away from the valley bottom. New settlements will have water supply, a mosque, elementary schools and dispensaries and some of them administrative centres.

It has been estimated that each person shall require 10 square meters of covered area. Eventually, compensation for 35,000 square meters covered area will have to be provided; of this cash compensation for 4,900 sqm will have to be given since some of the persons being displaced have desired so. For the remaining displaced persons 30,200 sqm. built-in area will be needed. The total area of mosques to be rebuilt has been estimated at 730 sqm. and of 'palva' houses to 850 sqm. Besides 240 sqm. covered area for four elementary schools will be needed and another 50 sqm. for administrative and other buildings will be required. Most of the construction will be of the type to which villagers are accustomed to and will be from local materials.

As per the records of 1979, compensation for 2338.6 hectares of cultivated land will be required. Out of this rice is grown in 1076 hectares, coffee in 613.8 hectares, cocoa in 506.2 hectares and the balance of 142.6 hectares is mainly covered by other trees and vegetation. In 1987 when the dam would be ready the cultivated area is assessed to have increased to 2900 hectares. For rice production virgin forests are proposed to be provided and improved shifting cultivation system introduced. Besides a plot of land at the rate of 50 sqm. per person will be provided to each family where they can also have homestead garden. Cultivation of cash crops will be encouraged.

The resettlement costs have been estimated in volume 7 of the Feasibility Study of the Mano River Basin Development Project. It has been estimated that expenditure amounting to US\$ 634,095 will have to be incurred on access roads and US\$ 1,028,350 on new villages. Besides US\$ 5.75 million will be required for cash crop plantations. The provision will have to be made during 1983 - 1988. This includes food assistance as well as compensation in cash.

#### Agriculture Development:

The population of the Project area is about 4400 persons (2800 in Sierra Leone and 1600 in Liberia). Density of population is low being only 28 persons per square kilometer on Sierra Leonean side and 15 persons per square kilometer on Liberian side. In case of Liberia all but one villages are served with motorable roads. As far as wedge shaped Sierra Leonean part is concerned, the Project area is inaccessible by car for lack of bridge

spanning the Mahoi River and thus becomes a limitation in development of growth of cash crops. The Project envisages covering with agriculture 10,000 hectares of land. Of this 5000 hectares will be rain-fed and the rest would have irrigation facilities. It will be a lift irrigation method with sprinklers. The other area is to adopt improved traditional methods of cultivation.

The per capita income has been estimated for the Project area arising from agriculture activities on the basis that (a) local market price of husk rice is \$ 300 per ton, coffee clean in Sierra Leone \$ 1.733 per ton and husk coffee in Liberia \$ 750 per ton; cocoa (dry beans) in Sierra Leone \$ 2100 per ton and \$ 1900 per ton in Liberia and other crops are sold in both countries at \$ 900 per ton; (b) in Sierra Leone per person cultivation covers 0.165 ha for rice, 0.15 ha for coffee, 0.02 ha for cocoa and 0.04 ha for other crops whereas in case of Liberia the corresponding areas for the crops are 0.143 ha, 0.13 ha, 0.04 ha and 0.04 ha; (c) whereas every year in case of rice the yield is obtained from total area cultivated, it is only for 70 per cent of the area in case of coffee and 80 per cent in cases of cocoa and other crops, and (d) the yields per hectare for Sierra Leone are 0.94 ton in case of rice, 0.24 ton of coffee, 0.225 ton of cocoa and 0.35 ton of other crops and the corresponding yields in case of Liberia are estimated at 1.08 tons, 0.435 ton, 0.225 ton and 0.35 ton.

In the manner mentioned in the preceding paragraph each person in Sierra Leone is to earn per annum \$ 46.5 from rice, \$ 43.7 from coffee, \$ 7.6 from cocoa and \$ 10.1 from other crops totalling to about \$ 108. In Liberia the earnings of a person per annum are expected to be \$ 46.3 from rice, \$ 29.7 from coffee, \$ 13.7 from cocoa and \$ 10.1 from other crops which total to about \$ 100. The average size of the family in the surveyed villages is 5.1 persons. Therefore, the family income works out to be over \$ 500. The average time to be spent by a person on the mentioned agricultural activities is estimated at 56.9 days in case of Sierra Leone and 50.5 days in case of Liberia. Thus daily return to a person in Sierra Leone should be \$ 1.9 and in Liberia \$ 2.0. These figures are quite comparable to the earnings of hired labour from industry in the regions. The pattern of farming in the area is such that males, females and children all participate in one activity or the other.

The Feasibility Study of the Development Project has explained at length in Volume 7 the various methods of cultivation of irrigated and rain-fed areas and has brought out that it is better to use improved traditional system of cultivation on the rain-fed farming. The covering of the area by farming is proposed to be phased out. As far as irrigated area is concerned only an experimental farm of 50 ha will be taken up during 1983 and the rest of the area coverage will start in 1989. The cultivation of rain-fed area is proposed for 1984. The earnings from various crops during 1984 - 1990 in case of Sierra Leone are mentioned in Table I below.

Table I - Returns from Cultivated Non-Irrigated Areas

		<u>Sierra Leone</u>						(Figures in \$ '000)
Crop	Output in 1984	1985	1986	1987	1988	1989	1990	
Rice	141.0	143.9	146.7	149.7	152.7	186.7	222.2	
Coffee	132.4	128.0	134.1	201.2	254.9	287.4	293.2	
Cocoa	23.0	27.4	33.1	40.2	48.0	56.2	59.5	
Others	30.7	31.3	31.9	32.6	33.2	33.9	34.6	
Sub-total	<u>327.1</u>	<u>330.6</u>	<u>345.8</u>	<u>423.7</u>	<u>488.8</u>	<u>534.2</u>	<u>609.5</u>	

Source: Vol. 7 Feasibility Report Mano River Basin Development Project

Similar data in respect of Liberia are mentioned in Table II.

Table II - Returns from Cultivated Non-Irrigated Areas

		<u>Liberia</u>						(Figures in \$ '000)
Crop	Output in 1984	1985	1986	1987	1988	1989	1990	
Rice	80.0	81.6	83.2	84.8	86.5	105.6	126.0	
Coffee	51.7	49.9	60.0	90.3	114.6	129.0	131.6	
Cocoa	23.7	28.4	34.2	42.0	49.4	57.7	61.7	
Others	17.3	17.7	18.0	18.4	18.8	19.2	19.5	
Sub-Total	<u>162.7</u>	<u>177.6</u>	<u>195.4</u>	<u>233.5</u>	<u>269.3</u>	<u>311.5</u>	<u>338.8</u>	

Source: Vol. 7 Feasibility Report - Mano River Basin Development Project.

The returns from irrigated areas exclusive of experimental farm of 50 ha both for Sierra Leone and Liberia are mentioned in Table III below:

Table III - Returns from Cultivated Irrigated Areas

		(Figures in \$ '000)						
Country	Sugar cane	output in 1984	1985	1986	1987	1988	1989	1990
Sierra Leone		-	-	-	-	-	-	2966.6
Liberia		-	-	-	-	-	-	2379.4
Sub-Total		-	-	-	-	-	-	<u>5346.0</u>

Source: Vol. 7 - Feasibility Report - Mano River Basin Development Project.



During the period covered by the above Table III it is only in 1990 that cultivation through irrigation is taken up. The start is being made with sugar cane and the rice farming in such an area is proposed to be taken up during 1993 and by then the value of production of sugar cane will be going up to US\$ 8.1 million. The irrigation is proposed to be done by water sprinklers. 2650 ha of irrigated area will be on Sierra Leone side and 2350 ha on Liberia side. The irrigated area lies between Zimmi in Sierra Leone and Bandaja in Liberia. The other end in Liberia is close to Kongo. The value of the total output from non-irrigated and irrigated areas of both countries as included in the Development Project is mentioned in Table IV below:

Table IV - Returns from Irrigated and Non-Irrigated Areas

(Figures in \$ '000)

Crop	Output in 1984	1985	1986	1987	1988	1989	1990
Rice	221.0	225.5	229.9	234.5	239.4	292.3	348.2
Coffee	184.1	177.9	194.1	291.5	369.5	416.7	424.8
Cocoa	46.7	55.8	67.3	82.2	87.4	113.9	121.2
Sugar Cane	-	-	-	-	-	-	5346.0
Others	48.0	49.0	49.9	51.0	52.0	53.1	54.2
<b>Total</b>	<b>499.8</b>	<b>508.2</b>	<b>541.2</b>	<b>659.2</b>	<b>748.3</b>	<b>876.0</b>	<b>6294.4</b>
Area under cultivation ha	1747	1784	1817	1855	1981	2092	4944

There will be further expansion in area cultivated. This will in 1993 become 2981 ha in case of non-irrigated area under improved traditional system and 5000 ha as far as irrigated area is concerned. Thus during the year the total cultivated area will be 7981 ha. The production in 1993 has been estimated at \$ 9.81 million. The improved traditional system will have the use of hand operated sprayers, axes, pruning saws, etc. The proposed system will cause social and economic development of the region without much upsetting of traditional habits. The sugar cane cultivation is expected to provide 1500 jobs besides 300 more are expected from its processing. It will further help in diversifying industrial activity which presently concentrates on mining. The produce of sugar cane will be enough to totally eliminate imports of sugar and should also go a long way to create similar situation in respect to rice. It will bring forth substantial improvement in the road network and transport system, particularly when bridges on Mano and Mahoi Rivers would be there. The improved cultivation methods shall encourage the farmers to stick on to cultivation rather than to take up labourers jobs when the construction of the dam begins.

Industry-Based Inputs:

The agriculture production methods which have been considered for the Project Area will also result in demand for industrial products like fertilizers, pesticide, fungicide, insecticide and herbicide formulations; and agriculture machinery and other facilities like maintenance and service centres for the vehicles. The consumption for use of these in terms of values has been worked out in the Feasibility Report of the Project Area. The available information in respect of non-irrigated areas for Liberia and Sierra Leone has been given below in Tables V, A and B:

Table V

Cost of Selected Inputs January 1981 Prices

(Non-Irrigated Area)

(Figures in \$ '000)

A - LIBERIA

<u>Input/Year</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Fertilizers	-	-	-	-	-	3.88	7.27
Pesticides	3.36	6.80	10.39	14.20	18.10	19.24	20.36
Maintenance-Vehicles	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Maintenance-Houses	0.16	0.16	0.16	0.16	0.16	0.16	0.16
<b>Sub-Total</b>	<b>3.04</b>	<b>7.48</b>	<b>11.07</b>	<b>14.88</b>	<b>18.78</b>	<b>23.80</b>	<b>28.31</b>

B - Sierra Leone

Fertilizers	-	-	-	-	-	7.92	16.20
Pesticides	5.14	10.75	16.49	22.22	28.41	30.61	32.88
Maintenance-Vehicles	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Maintenance-Houses	0.28	0.28	0.28	0.28	0.28	0.28	0.28
<b>Sub-Total</b>	<b>6.37</b>	<b>11.98</b>	<b>17.72</b>	<b>23.45</b>	<b>29.64</b>	<b>37.76</b>	<b>50.31</b>

Similar information in respect of irrigated area for both the countries is given in Table VI.

Table VI

Cost of Selected Inputs January 1981 Prices

(Irrigated Area)

(Figures in \$ '000)

<u>Input/Year</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Fertilizers	7.5	7.5	7.5	7.5	7.5	7.5	578.6
Pesticides	0.9	0.9	0.9	0.9	0.9	0.9	72.3
Maintenance-Vehicles	-	3.1	3.1	3.1	3.1	3.1	257.1
Maintenance-Machinery	12.50	-	-	12.50	6.3	6.3	6.3
<b>Sub-Total</b>	<b>20.9</b>	<b>11.5</b>	<b>11.5</b>	<b>20.9</b>	<b>17.8</b>	<b>17.8</b>	<b>914.3</b>

During the years 1984 - 1989 with irrigation system only the experimental project shall be functioning. In 1990 only the use of fertilizers, pesticides, etc. has been planned for the 2640 ha of the irrigated area. The irrigated area cultivation shall increase to 5000 ha in 1993 and at that time fertilizers worth \$ 1.172 million, pesticides for \$ 8.152 million and machinery for \$ 0.966 million will be consumed and the cost of maintenance of machinery, vehicles, etc. is estimated for that year at \$ 1.286 million.

The consumption of selected inputs for irrigated and non-irrigated areas at January 1981 prices for 1984 - 1990 is given in Table VII.

Table VII

Cost of Consumption of Selected Inputs

Input/Year	(Total)						(Figures in \$ '000)
	1984	1985	1986	1987	1988	1989	1990
Fertilizers	7.5	7.5	7.5	7.5	7.5	19.3	602.1
Pesticides	8.6	18.5	27.8	37.3	47.4	50.8	125.4
Maintenance-Vehicles	1.5	4.6	4.6	4.6	4.6	4.6	258.6
Maintenance-Houses	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Maintenance-Machinery	12.5	-	-	12.5	6.3	6.3	492.3
	<u>30.5</u>	<u>29.0</u>	<u>40.3</u>	<u>62.3</u>	<u>66.2</u>	<u>81.4</u>	<u>878.8</u>

Fishery Development:

In case the development proceeds as per the recommendations made in the Feasibility Report, the filling of the reservoir should start in 1985 and be completed by 1988. The area of the reservoir at an elevation of 135 meters is estimated at 320 square kilometers. This will become a medium-sized lake. It can be used to create a new activity namely fishing. The potential is there. Many such projects have already been tried successfully on most of the artificial lakes of Africa and Tropical Asia. The pisciculture stockings generally occur naturally from the species already existing in the river. It can also be further improved and accelerated by plantetivorous species, such as tilapia nilotica and heterotis miloticus.

The other aspect is that around the lake there will be only three villages, of course, more might be developed. There are practically no fishermen in the area. This should not be an unsurmountable problem. Some of such persons can migrate to the area and more among farmers can be trained for the purpose. Even though it is a small lake yet it has potentialities to yield around 3000 tons of edible fish and this could support around 500 fishermen. Facilities would be necessary like providing "corridors" and marking them with buoys, building up of fishing crafts and fishing nets and creating marketing structure.

Forestry Development:

The project also aims at evaluating the potentials for development of well-planned forests in suitable areas situated in the Mano River Basin and the study has been conducted of the flooded area of 391 square kilometers. 16422 ha of the forests in the flooded area are in Liberia and 12903 ha in Sierra Leone. The reservoir area which is estimated to have 8.22 million cubic meters of wood is proposed to be completely cleared. This would yield logs of 920,000 cubic meters on the Liberian side and 723,000 cubic meters on the Sierra Leonean side each year for the five year dam construction period. The merchantable volume of established species of wood in Liberia is 315,303 cubic meters and in Sierra Leone is estimated at 247,739 cubic meters. The merchantable volumes of lesser known light and medium species in Liberian area is estimated at 329,097 cubic meters and in Sierra Leone at 258,568 cubic meters and that of heavy weight lesser known species in Liberia is 400,236 cubic meters against 321,546 cubic meters estimated for Sierra Leone.

The total standing volume in accessible area of the basin along with its details is given in Table VIII.

Table VIII

Standing Volume in Accessible Area of the Basin

<u>Type</u>	<u>Possible A Application</u>	<u>Volume in Cubic Meters</u>		
		<u>Liberia</u>	<u>Sierra Leone</u>	<u>Total</u>
Merchantable Timber	Sliced Veneer	55,886	45,481	103,367
	Peeled Veneer	73,076	57,415	130,491
	Sawn Timber	1283,958	1008,833	2292,791
A - Total Merchantable Timber		1414,920	1111,729	2526,649
B - Non-Merchantable Timber	Charcoal Fuelwood Pulpwood	886,788	696,762	1583,550
<u>Total A + B</u>		<u>2301,708</u>	<u>1808,491</u>	<u>4110,199</u>
C - Slash	Fuelwood Charcoal Pulpwood	2301,708	1808,491	4110,199
<u>Total Standing Volume A, B + C</u>		<u>4603,416</u>	<u>3616,982</u>	<u>8220,398</u>

Source: Page 7.8.8 Vol. 7 Feasibility Study - Mano River Basin Development Project.

The Project Feasibility Study has further reported about the quantities of various types of wood available for different applications in terms of annual volume available for logging. The data is reproduced in Table IX.

Table IX  
Annual Volume of Wood to be Logged  
(M<sup>3</sup>)

<u>Species</u>	<u>Possible application</u>	<u>Liberia</u>	<u>Sierra Leone</u>	<u>Total</u>
Established	Sliced Veneer	11,577	9,096	20,673
	Peeled Veneer	12,152	9,548	21,700
	Sawn Timber	39,331	30,904	70,235
<u>A - Total Established</u>		<u>63,060</u>	<u>49,548</u>	<u>112,608</u>
Lesser known (light medium weight)	Peeled Veneer	2,463	1,935	4,398
	Sawn Timber	63,356	49,780	113,136
Lesser known (heavy weight)	Sawn Timber	81,847	64,309	146,156
<u>B - Total Lesser known</u>		<u>147,666</u>	<u>116,024</u>	<u>263,690</u>
C - Others not identified	Sawn Timber	72,257	56,773	129,030
<u>Total Merchantable A, B + C</u>		<u>282,983</u>	<u>222,345</u>	<u>505,328</u>
Non-merchantable Timber	Fuelwood Pulpwood	177,358	139,352	316,710
Slash	Fuelwood Charcoal Pulpwood	460,341	361,697	822,038
<u>Grand Total</u>		<u>920,682</u>	<u>723,394</u>	<u>1644,076</u>

Source: Page 7.8.9. Vol. 7 Feasibility Study- Mano River Basin Development Project.

Other Developments:

There are not many possibilities of improving the capability of navigation on the river over the lengths where rapids are many and these certainly are not commensurate with the cost of development. It might not be feasible to develop the river for transport of timber. It is of course desirable to create some cleared "corridors" in the lake which could be used for private or domestic needs as transportation of persons, fishing, tourists etc. These should also be served with small concrete slipways for canoes. As an international tourist attraction the Mano River Dam and its reservoir are not likely to compete with other facilities existing in the two countries. Of course, boating facilities should be provided. Not much revenue can be expected to accrue from tourism. This also limits the scope for development of handicrafts in the area.

Conclusion:

Development proposed in the fields of agriculture, forestry and fishery have substantial industrial potentials. The building of the Dam, generating of hydro-electric power, construction of houses and roads and the mining activities are not likely to go a long way to permit development of viable industrial enterprises. There is still no firm commitment of funds by the donor countries for implementation of the Mano River Basin Development Project. Moreover, many of the developments which are potential sources for an industrial development programme shall be taking shape around 1990. All these developments have a bearing on evaluation of the scope for development of industrial estates/areas and deciding about appropriate time for their establishment.

## PART V - INDUSTRIAL ESTATES AND INDUSTRIALIZATION

### Definition:

Planned industrial estates and industrial areas as understood presently are the outgrowth of economic depression of 1930s and the Second World War. The estates set up in the United Kingdom during the 1930s contributed to the creation of employment opportunities in specified depressed areas. The United Nations define an industrial estate as a planned clustering of industrial enterprises offering standard factory buildings erected in advance of demand and a variety of services and facilities to the occupants. The other terms commonly used in this connexion are industrial areas, industrial parks, industrial districts and industrial zones. The main difference of these vis-à-vis industrial estates is that none of these provides for constructed work sheds in advance of demand.

### Objectives:

The industrial estates/areas are developed to encourage industrial growth in a specific area, to provide employment, to promote indigenous entrepreneurship, to exploit natural resources, to attract foreign investments, to achieve decentralization of industry, to modernize existing industries, to attain more even income distribution, and to achieve decongestion of urban localities. Industrial estate is a promotional instrument and not a real estate operation. Further it is not an overall development programme particularly for the small-scale sector. This programme will have only a limited impact if it does not integrate all or most of the other facilities and if it is not a part of a general programme for development of industry.

### Promotion Aspects:

In order to ensure successful promotion of an industrial estate, the following factors have to be kept in view:

1. Will the estate be situated suitably with respect to national markets, transport routes, raw materials resources and skilled labour?
2. Will the estate provide best and the cheapest premises in the selected area?
3. Will there be enough enterprises willing to move into the estate of the given size?
4. Will the industrial facilities and social amenities be enough to attract and to hold industry and personnel from elsewhere?
5. Is the time factor of development favourable in the light of the above four factors?

Ensuring Success:

The success of an industrial estates programme lies ultimately in the success of participating enterprises. Industry cannot succeed if the products manufactured do not correspond to market needs and if national or local purchasing power is insufficient. Further failure to pay sufficient attention to location, siting, timing and size of the estate and to the infrastructure facilities results in a comparative or even complete defeat of the programme. Industrial estates show better performance if enterprises are run by local people; the size is moderate one and industrial propositions are selected keeping in view the local requirements and depending as much as possible on those materials and skills in which the locality enjoys a comparative advantage.

The availability of credit is often more important to small industrial enterprises than low rate of interest. Therefore the attitude of Banks in making institutional finances available in time and enough to meet the genuine needs of medium and small units determines to a significant extent the chances of success. Industrial estates have been more frequently successful which accommodate small ancillary industries to cluster around as "satellites" of mother nucleus plants in the large-scale sector.

Industrial estates in Depressed Areas:

The conduciveness of industrial estates to success of industrial development programmes in depressed areas is generally governed by factors like:

1. Size of the market for products and services supplied by the small firms and artisans;
2. Availability of local entrepreneurs;
3. Availability of a nucleus of skilled workers or of workers to be trained in various skills;
4. Clearcut and consistent government policies and willingness to provide necessary incentives;
5. Existence of institutional infrastructure for planning and implementing programmes and ability to provide institutional credit;
6. Provision of adequate information, common facilities and industrial extension services.

More details about industrial estates are given in Annex VI.



Conclusion:

Industrial estates/areas programme has proven efficiency for assisting in achieving accelerated growth of industry in the potential areas. However, if it is not properly timed or not coupled with other complementary programmes; or location is inappropriate or an institutional framework is not there, then it results in a very expensive exercise which certainly does not yield commensurate results in the shape of industrial development vis-à-vis the quantum of various inputs. At times in that situation the industrial climate and confidence of indigenous entrepreneurship is seriously damaged. Therefore, this tool of industrial development has to be used in a discriminatory manner.

PART VI - DEVELOPMENT OF INDUSTRIAL ESTATES

A - MANO RIVER BASIN AND HINTERLAND

Situation Analysis:

The exact demarcation of the hinterland around the Mano River Basin has not been done. However, keeping in view the general characteristics of the area, it is felt that for the purposes of the study this is not going to make material difference. The programme contents of the Mano River Basin Project which have relevance to industrial promotion have been brought out in Chapter IV. And some of them are as follows:

1. The main dam will have homogenous earthfill and eleven saddle dams. The output of capacity of the generator will be 150 MW. The generator will be commissioned in 1989.
2. The total investment of the Project is estimated at US\$ 367.24 million at January 1981 prices which also includes US\$ 5.75 million for resettlement and US\$ 59.98 million for the transmission system.
3. Irrigation facilities for 5000 ha will be developed after 1989. In addition another 5000 ha of land will be provided with facilities for improved traditional methods of rain-fed cultivation.
4. The cultivated areas will produce rice worth US\$ 0.221 million in 1984, US\$ 0.348 in 1990 and US\$ 1.069 million in 1993; sugar cane production starting in 1990 will be worth US\$ 5.346 million which will rise to US\$ 8.100 million in 1993; coffee produce in 1984 is valued at US\$ 0.184 million, in 1990 at US\$ 0.425 million and in 1993 will be US\$ 0.450 million, cocoa output is estimated at US\$ 0.047 million in 1984, US\$ 0.121 million in 1990 and US\$ 0.131 million in 1993 and other crops including fruits are expected to amount to US\$ 0.048 million in 1984, US\$ 0.054 million in 1990 and US\$ 0.057 million in 1993.
5. The consumption of fertilizers has been forecasted at US\$ 0.008 million in 1984, US\$ 0.602 million in 1990 and US\$ 1.236 million in 1993; of pesticides at US\$ 0.009 million in 1984, US\$ 0.125 million in 1990 and US\$ 0.217 million in 1993, and use of machinery worth US\$ 0.013 million in 1984, US\$ 0.492 million in 1990 and US\$ 0.996 million in 1993. The maintenance cost of machinery, vehicles etc. will be US\$ 0.002 million in 1984, US\$ 0.259 million in 1990 and US\$ 1.288 million in 1993.
6. The reservoir area will be around 320 square kilometers. This has potentialities of yielding around 3000 tons of edible fish every year and engage around 500 fishermen and generate demand for fishing, crafts and fishing nets.

7. The reservoir area has 8.22 million cubic meters of wood which on clearance will yield 1,644,000 cubic meters of logs each year for the five year dam construction period. Thus there will be annual supply of around 21 thousand cubic meters of wood for sliced veneer, around 26 thousand cubic meters for peeled veneer, around 459 thousand cubic meters for sawn timber and about 1.14 million cubic meters for fuel wood, pulp wood and charcoal. This can be extensively supplemented from the forest areas in the hinterland around the Mano River Basin and log wood can be transported through the river.
8. The area with its surroundings has significant mineral resources. No programme of mineral processing has been worked out for the foreseeable future. Consideration, however, is being given to cutting and polishing of diamonds and jewellery.
9. Livestock rearing in small numbers is done in the adjoining areas, particularly on the Sierra Leone side and there are potentials for its being increased manyfold, particularly at the time agricultural development programme of the Mano River Basin Project is implemented.
10. Over three thousand persons will be resettled and most of them will be on Sierra Leone side where four new settlements will be established. For the settlement of displaced persons who will not be seeking cash compensation a little over 30,000 square meters of covered area in the form of about 580 dwellings will be constructed. Besides, rebuilding of mosques will require 730 sqm, 'palva' houses 850 sqm. and administrative buildings etc. 50 sqm. Almost all of the covered area is to be rebuilt from simple local materials on traditional lines.
11. It is estimated that 20 kms of 5 meter wide roads will be built in Sierra Leone and 2 kms in Liberia for the resettlement of the villagers. The highway between Freetown and Monrovia will be completed. Feeder roads are to be constructed by the respective governments which are proposed to be taken up as and when there is a need.
12. The hinterland and the Mano River Basin is thinly populated. There are no known concentrations of artisans of any type - local entrepreneurship is lacking.
13. There is no significant industrial activity presently existing in and around the area, except mining and transporting of iron ore and rough diamonds.

### Industrial Potentials:

The clearance of the reservoir area is proposed to be started in 1983. The availability of wood from there supplemented with that from the hinterland should provide scope for development of industries in forest areas for timber sawing and at other places like (a) sliced veneer (b) destructive distillation of wood and (c) wooden furniture including knock-down furniture, particularly for export, wooden packing material etc. The products from destructive distillation of wood like charcoal, wood tar, solvents and organic acids have further use for promotion of a number of chemical industries. The feasibility of pulp manufactured from the available wood is not foreseen in the immediate future, particularly on account of lack of uniformity of the properties of the fibre from mixed species of wood. Further fuel wood could be the source for generating electricity to be used for the construction of dam and surplus quantity for industry if that comes up. Fishing boats manufacture could also be an added activity. Wooden handles for brushes, agriculture and other tools and for miscellaneous purposes form a candidate industry.

The agriculture activities have potentials for promoting activities like (a) sugar (b) rice milling (c) rice bran oil (d) cocoa and coffee processing and (e) fruit juices and canning and jams. Bagasse, a by-product of sugar industry, can be used for card board and paper board; molasses for alcohol, cattle feed, yeast and carbon dioxide. Alcohol besides being used for beverages is also an industrial raw material. The vacuum pan and open pan manufacturing processes would have to be reviewed for their suitability to the area.

The input and other requirements for agriculture development have potentials for promoting enterprises for (a) mixed and granulated chemical fertilizers formulations (b) insecticide, pesticide, fungicide and herbicide formulations (c) agro-servicing centres and (d) repair and maintenance workshops for machinery. Potentialities for manufacture of simple agriculture tools and implements could also be reviewed, keeping in view the demand for those arising from the adjoining areas as well.

Fish processing and production of fish meal also form resource-based activities but those might not go well with the other activities to be accommodated in an industrial estate.

There does not appear to be any feasible industrial potential for the area based on the requirements for the construction of the dam.

The construction of houses etc. and roads is not expected to generate enough recurrent demand for industrial goods based on which industrial enterprises could be promoted in the area.

Due to low population of the area and inadequate purchasing power there does not appear to be bright potentials for development of industries based on the consumption pattern of the inhabitants. Similarly, lack of concentration of any group of artisan eliminates chances for developing

skill-based enterprises. However, if the development of industrial estate becomes feasible based on the obvious potentials, then concentration of industrial activities and skills etc. in themselves give rise to establishment of demand-based activities where the consumption of the inhabitants of the adjoining areas can also be considered.

Industrial Estate Promotion:

In order to ensure successful promotion of the industrial estate in the area appropriate answers to at least the following enquiries have to be sought:

1. Do the industrial potentials provide scope for developing an estate, might be in a phased manner?
2. Have the marketing aspects of the identified products and adequate provision of infrastructure facilities been rechecked and ensured?
3. Does the institution which is to promote the industrial estate have organized itself to implement the programme and has developed linkages with other organizations dealing with infrastructure and other facilities required?
4. How is the availability of indigenous entrepreneurship matching with the requirements of the identified potential industries and/or will the foreign investors be interested in investments in the selected area?
5. How is the availability of industrial skills and labour, housing, education and other social facilities in the area?
6. Have the other programmes like industrial extension service, fiscal and financial incentives, credit facilities, provision of industrial information etc. been introduced or at least will those be there before the clients are invited to book accommodation in the industrial estate?
7. Based on the evaluation in accordance with the above norms then a suitable answer to the question as to whether it is the appropriate time to promote an industrial estate and/or area is to be found.

Obviously, the nucleus for an industrial estate can be established through promotion of forest-based industrial activities and around that further network of enterprises based on other resource-based activities can be built up in phases and then expanded to include demand-oriented propositions.

Once the sources for financing the Mano River Basin Development Project have made commitments and the work for completing the highway between Freetown and Liberia progresses, then the availability of infrastructure is assured. Many of the proposed activities have developed domestic markets, some others are such which have reasonable scope for exports under special agreements with various friendly countries and the rest are the products for which raw material in any way is going to be available by clearing the reservoir area.

The basic network of institutional framework does exist in the MRU as well as in Liberia and Sierra Leone. However, the same has to be developed for planning, executing and monitoring industrial estates programme. There is need for additional network for generating interest and achieving co-operation of other institutions with infrastructure and other facilities like credit, and this is likely to take quite a bit of time for taking an effective shape.

Indigenous entrepreneurship is lacking. For the opportunities involving high investments, nationals might not have resources and much less risk-bearing developed capabilities. Governments might have their own limitations to invest in them, particularly in view of the national priorities. Enough institutional framework to mobilize small savings for financing such ventures has still to be adequately developed. The building up of enough data to induce foreign investors and requisite publicity for that has still to be initiated. The foreigners might be interested in certain other locations. Of course, compensation for change of desired location is mentioned in the Union Investment Incentive Contract document. Anyhow, the exercise of locating suitable foreign investors and their establishing the enterprises can take sufficient long time.

Sierra Leone and Liberia both have scarcity of industrial skills. Steps are being taken also by MRU to fill up the gap between the potential needs and the number available. In addition some arrangements for 'on-the-job training' facilities will have to be made for most of the identified industrial opportunities. The area is thinly populated and is not likely to meet the increasing requirements of the identified industries. However, labour from adjoining areas could be inducted in. The housing facility will also have to be extended. The technical and managerial personnel employed by the manufacturing concerns will experience difficulties in respect to various social amenities for themselves and their families.

The fiscal and financial incentives and credit guarantee scheme are operative in both the countries. However, there is ample scope for improving their implementation. MRU, in particular, has done substantial work in building up industrial information. In Liberia a number of steps have been taken by the Liberian Industrial Free Zone Authority to identify projects, foreign investors and providing them with the information needed by them to establish enterprises. Similar steps for promoted industrial estate(s) will, of course, be taken. Industrial extension service which is applicable to small-scale enterprises has to be yet organized in both the countries.

The summing up of the situation in respect to promotion of industrial estates/areas in the Mano River Basin and its hinterland might be done as follows:

1. Industrial potentials justify the use of the concept of industrial estates/areas for industrial development of the area.
2. Incentives and infrastructure facilities and institutional framework particularly on the Liberian side are quite conducive to establishment of an industrial estate/area.
3. Entrepreneurship, industrial skills, industrial extension service and social amenities for technical and management personnel coming for employment in the area are lacking. Availability of foreign investors has yet to be explored.
4. The nucleus for consideration of the establishment of the industrial estates is building up of the dam on Mano River. Funds for this project have yet to be committed by the donors. Most of the potential industries are based on development of natural resources and more particularly the agriculture where most of the development will start after 1989 and would be fully developed by 1993. Of course, only in case the Mano River Basin Development Project is implemented as scheduled.

In the light of the above analysis it is felt that though development of industrial estates/areas can be viable propositions yet at the present juncture it is too early and there are many uncertainties on account of which its application needs to be deferred for the time being. By early nineties such a developed need should be felt. It is therefore recommended that the developments should be watched for the time being and the position reviewed around 1985. In the meantime steps should be taken to build up the industrial climate and to remove the identified weakness already mentioned. Kongo Town on Liberian side and Zimmi in Sierra Leone are considered to be potential growth poles and their claims should be studied if such a review justifies later on the establishment of the industrial estates/areas in the Mano River Basin. Since the production orbit will include both large-scale and small-scale factories, the development should be suitably blended. Industrial area with infrastructure facilities developed up to the boundry will meet the justifiable requirements of the large-scale sector while the small-scale enterprises' claim for built-in factory worksheds should be favourably considered. Some of the facilities might be provided by the large-scale enterprises and the balance should be developed by the promoting institution.

B - MANO RIVER UNION INDUSTRIES + INDUSTRIAL ESTATES/AREAS

Background:

The scope of this study is to evaluate the need to promote two industrial estates/areas in the hinterland around the Mano River Basin taking into consideration the Projects envisaged in the Mano River Basin Development Plan. This is as per the mandate by the Working Committee of the Union Commission on Industry and Trade given in its ninth meeting held in January 1981. However, as per the eighth article of the Twelvth Protocol of the Mano River Declaration concerning the Principles and Policy for the Promotion of Union Industries signed on July 9, 1976, the Union Secretariat is expected " to identify, investigate and suggest action and measures for the establishment, implementation and management of viable Union Industries including the initiation of and construction of industrial estates for subsequent leasing to Union Industries within the overall strategy of Union economic development."

Scope:

The material made available by the Secretariat of MRU and the discussions held with its officers and consultants have been also useful for elaborating the use of industrial estates/areas for facilitating growth of Union industries and along with those certain small-scale enterprises to supply components, parts, sub-assemblies etc. to them. There are quite a few propositions already either selected or being considered for granting Union industry status to them. Some of those are being picked up as illustrations for weaving around those the fabric of small enterprises.

Textile development is one of them. In order to promote it the cultivation of cotton will be encouraged and farms developed. The cotton seeds could be used for oil extraction including the use of solvent extraction process and the cake could form an ingredient for cattle feed. It is an edible oil and the soap stock which is a by-product of purification process coupled with other oils can be employed for manufacture of soap. The spun yarn will be required by handlooms which can further extend the activities to include production of bed spreads, upholstery, table cloth besides the traditional items. It can also be used as it is or through blending with synthetic yarn for manufacture of cotton vests and underwears, socks, sewing thread, shoe laces, labels, knitting, mosquito nets and curtains, sanitary towels, surgical bandages and gauze. Absorbent cotton is another possible product. Coupled with the skill of tailors, a few enterprises for ready-made garments could be promoted. Besides a factory could be established to produce bobbins and shuttles, one for ginning washers and another for supplying packing materials etc. The cotton plant stalks form fodder particularly for sheep and goats.



Manufacture of sugar is another possibility: Bagasse is its by-product. It can be used for manufacture of card board and paper board. Molasses which is another by-product forms the base for producing industrial alcohol, alcoholic beverages and cattle feed. Carbon dioxide particularly for soft drinks and yeast manufacture are also off-shoots of the sugar industry. Based on industrial alcohol, cosmetics, perfumery and certain pharmaceutical products can be developed. Sugar can also be employed coupled with local fruits to promote units engaged in manufacture of jams, jellies and preserves. The local fibrous materials could possibly be developed for weaving sacks for packing of sugar.

It was also mentioned that livestock development is under active consideration, particularly for supply of meat and milk. The butchery by-products are hoos, horns, intestines, bones, bristles, blood meal, tallow and fleshings. Various industrial activities based on these can be developed, such as cattle feed, poultry feed, glue, gelatine, soap, cosmetics, guts and brushes. Hides and skins form another by-product. These give rise to activities like pickling, wet blue tanning, vegetable tanning, chrome tanning (for sole leather, lining leather and harness leather). The leather products include shoes, chapals and sandals, shoe uppers, soles and heels, leather cases, industrial gloves, garments, purses and novelties, picking bands, ginning washers, sports goods, laminated belting, leather board, leather laces etc. This development in turn gives rise to manufacture of auxiliary items, such as shoe eyelets, shoe tacks, leather adhesives, shoe laces, shoe polish, cobbler thread, shoe makers' tools etc. The horns might also be used for making handicrafts. Meat is consumed as it is as well as industrial activities for processing and canning it might be promoted for which again a tin can-making plant can be established.

Salt refinery is also under the active consideration of MRU. Salt besides its edible use through conversion to table salt has many other industrial uses. It is used for preserving fish and hides and skins. Its electrolysis gives rise to manufacture of caustic soda and releases hydrogen and chlorine gases which when combined produce hydrochloric acid and have other industrial uses including manufacture of bleaching agent and purification of drinking water. Caustic soda is used in chemical industries and also for the manufacture of soap and soda ash. Soda ash has a number of uses, including manufacture of synthetic detergents and as a raw material for glass industry which again forms as a starting material for a number of products needed by the society.

Destructive distillation of wood results in production of charcoal, wood vinegar, wood tar, methanol, solvents, and organic acids like acetic, propionic and butyric. These are further employed

for activated carbon, sodium cyanide, carbon disulphide, special steels, chemical adsorbent, lining of moulds in metal foundries, preservatives, flavouring agents for meat and smoked fish, perfumery and aroma industry, veterinary medicines, pharmaceuticals and in rayon textile and film industry.

"Satellite Enterprises" Industrial Estates:

Concept:

It is obvious from the five examples given above that many of the Union Industries can be instrumental for development of a number of other ventures, particularly in the medium and small-scale sectors. Each of such industrial unit is commonly known as nucleus plant. The network of other activities which can be developed based on these form the "satellite enterprises". It may not be possible to develop all the satellite enterprises and those which can be promoted might not all be done at one time, of course, with the exception of such ones which manufacture part, components or sub-assemblies for the nucleus plants. This concept is basically more applicable to engineering industries. MRU Secretariat in accordance with the article eight of Protocol Twelfth, it is believed, will be interested to promote industrial estates housing nucleus plants and their satellite enterprises. This could have the following advantages:

1. Capital investment of the nucleus plant can be reduced since some of the enterprises could provide it parts, components or sub-assemblies for which otherwise the machinery would have to be installed by it and other investments for their manufacture made.
2. The satellite enterprises have assured demand for their output and as such should be successful in establishing positive examples for others to take to industry. This builds up industrial climate. Even if the nucleus plant could ensure around utilization of 50 per cent or so of the installed capacity of satellite units which covers up to break-even point, the success is assured since for utilization of the remaining installed capacity they could always look to the general market.
3. In other cases assured supply of raw materials reduces inventory and allows regular functioning of the small units.
4. The viable industrial opportunities identified for smaller investments go a long way to mobilise small savings and their being deployed for industrial development. It also helps in promotion of entrepreneurship.
5. The small-scale units could have the advantage to draw on the expertise of the nucleus plant in matters of technical, managerial and financial nature.
6. The nucleus plant exercises a control on the production activities of the satellite units to ensure adoption of quality control measures and regular supplies.

7. Some of the infrastructure and common service facilities are provided by the nucleus plant and thus the promotional expenditure for the executing authority is minimised.
8. Financing institutions are more inclined to finance satellite enterprises, the demand for whose products is assured and thus those could function successfully.
9. Availability of industrial skills is better and improvement of the skills of the persons employed by satellite units is easier.

This development will be a combination of industrial area and industrial estate. The nucleus plant should be provided with infrastructure facilities up to the site and further development of the area should be left to it to meet its own requirements. In its neighbourhood the area should be developed by the promoting institution in the form of an industrial estate or even as industrial area depending upon the felt needs of the satellite enterprises. This method will reduce the total cost of an industrial estate/area for achieving the desired industrial development.

Some Operative Aspects:

It has to be binding on the nucleus plant to buy its requirements from the satellite enterprises as otherwise the base of the proposition will be shaken. Accordingly, MRU Secretariat should insist that the feasibility report submitted by the promoters of the nucleus plant clearly demarcates its programme of developing satellite enterprises. The items and their quantities should be specified in the license itself. This may require revision of the licensing form and procedures which is not expected to cause significant difficulties. At the same time the extent of incentives to the nucleus plants should be in a way also tied up to the volume of production proposed for the satellite enterprises.

The goods from the satellite enterprises will form only a part of the total value of the products of a nucleus plant. Unless the satellite enterprises are established along with the nucleus plant, it will not be possible to keep up the production, and large stocks of semi-finished goods will be built up with the nucleus plant. This is not desirable. Therefore, all care will have to be exercised to ensure establishment of the satellite enterprises well in time. Moreover strict quality control as per the standards of the nucleus plant will have to be adopted by the satellite enterprises. They should purchase machinery in consultation with the management of the nucleus plant which has the right to inspect goods in production and to reject products not meeting specifications. The requisite technical guidance should be offered by the technical personnel of the nucleus plant.

It also happens sometime that the nucleus plant management does not buy at reasonable price and at the same time do not make payments in time. All such and alike situations adversely affect the growth of satellite enterprises and those develop signs of sickness. The promoting institution

will have a role to play for avoiding such developments and a provision for that will have to be made in the license granted to the nucleus plant and in its agreements with the satellite enterprises.

Since the Union industries will have premises in one State or the other the adoption of the proposal and the role which MRU is to play for its development would have to be worked out and suitable Protocol added to the Declaration. Since the exact location of the Union Industries have yet to be fixed and suitable promoters are to be identified, further details of the recommendation for developing the industrial estates/areas could not be worked out. In case the concept is accepted, then MRU Secretariat might require UNIDO further assistance for developing the same.

## C - INDUSTRIAL ESTATES/AREAS IN LIBERIA AND SIERRA LEONE

### Assessment:

The general and industrial review of Liberia and Sierra Leone included in Part One of the report is based on literature survey, discussions with persons involved in the programmes and field visits. It reveals that there is ample scope also for industrial development covering the artisans and the small and medium-scale sectors. The institutional structure needs to be strengthened and bankers are required to be persuaded to adopt liberal attitude to provide credit facilities to weaker sections of the industry. The Central Banks should ensure effective operation of the Credit Guarantee Scheme. Industrial climate has to be built up, and investible funds available in smaller amounts with sizeable number of persons have to be mobilised and directed to industrial development. Industrial extension service has to be built up and entrepreneurship development programmes introduced. Industrial information has to be collected, documented and arrangements for its dissemination strengthened.

### Rural Industrial Estates:

Both the countries have faith in the usefulness of the industrial estates/areas for furthering the cause of industrialization. Industrial areas/zones have been developed. However, there is ample scope in their improvement and effectiveness. Both the countries have concentration of rural artisans like carpenters, handloom weavers, cloth printers etc. well spread out in the rural areas. There is a need felt to organize them to improve their productivity and quality of work and to expand the orbit of production. This will involve use of improved tools and equipment and better technology and designs. This calls for effective industrial extension service which may in time involve running of model production centres or common facilities. The facilities for supply of raw materials, credit and marketing (to the extent possible to be linked with Government purchase programme) are also required. All this has better use if the beneficiaries work at one place. It is assessed that a programme of rural industrial estates tied up with facilities already mentioned should be introduced initially on experimental basis and later on expanded depending upon the experience gained. If the proposal finds favour with the Governments, assistance of UNIDO and/or ILO might be required to work out the details of the programme.

The role of the Mano River Union Secretariat in organizing rural industrial estates could be of advisory nature. The Secretariat might act as a catalytic agent to work out suitable programmes and to render advice for their implementation.

The institutional framework at the level of MRU as well as the Member State Governments has already been discussed. The involvement of the financial institutions at various stages of development of industries and programmes therefore particularly which have to be looked into from the financing angle is quite important. Once such institutions become a party to the various decisions, then much better

co-operation from them can be anticipated for investment and for extending credit facilities. Similarly the Chamber of Commerce and Industry is in close touch with the private investors and thus knows of their problems and needs and at the same time should be able to translate to them the policies and programmes initiated by the Governments or MRU for industrial development. Other institutions concerned are those which deal with infrastructure development. It is worthwhile to institute a platform where the point of view of the mentioned bodies could be ascertained and co-operation obtained.

LIST OF PERSONS WITH WHOM DISCUSSIONS WERE HELD

A - MANO RIVER UNION

1. Dr. Ernest Eastman - Secretary-General
2. Dr. Shekou M. Sesay - Deputy Secretary-General
3. Mr. Baldwin R.C. Banks - Director, Economic Affairs Division
4. Dr. Stephen Kanu - Director, Social Affairs Division
5. Mr. Victor D. George - Director of Administration and Finance
6. Mr. Sam A. Ricks - Project Co-ordinator, Mano River Basin Development Project
7. Dr. Friedberd Reichhart - Industrial Development Unit
8. Mr. F.B.L. Mansaray - Acting Director, Economic Affairs Division
9. Mr. D. Gbe Nimley - Chief, Standards, Quality Control + Metrology Counterpart
10. Mr. Douglas B. Mead - Head, Transport + Communications Section, Economic Affairs Division
11. Mr. Udo Quedenfeldt, Technical Adviser - MRU/GTZ
12. Ms. Joy Zollner, Special Assistant to the Secretary General
13. Mr. Samuel K. Horace - Industrial Development Unit
14. Mr. Salifu A. Tamara - Industrial Development Unit

B - LIBERIA: GOVERNMENT AND OTHERS - MONROVIA, ETC

15. Professor D. T.W. Mayson, Chairman - National Investment Commission
16. Ms. Meload Darpoh, Assistant Minister, Ministry of Commerce, Industry and Transportation
17. Mr. Othello C. Brandy, Assistant Minister, Ministry of Agriculture
18. Mr. D.L. Maxwell Kaba, Director Small and Medium Industries, NIC
19. Mr. George Williams, Director, Investment Promotion Department NIC
20. Mr. Lawrence Doe, Director of Finance and Administration, NIC
21. Ms. T.E. Liles Wiesel, Co-ordinator, Small and Medium Enterprises NIC
22. Mr. Peter D. Tenny, Assistant Project Engineer, Industrial Park, Monrovia
23. Mr. James K. Simbo, Industrial Planner, Ministry of Planning + Economic Affairs, Monrovia

24. Ms. Amelia Ward, Industrial Planner, Ministry of Planning +  
Economic Affairs
25. Mr. Shad G. Kaydea, Managing Director, Ministry of Forestry
26. Mr. Samuel S.G. Bobway, Forestry Information Officer, Ministry of Forestry
27. Mr. Tomy Gorgla, Forest Utilization Officer, Ministry of Forestry
28. Mr. Foreman, Director, Ministry of Land and Mines
29. Mr. Carvatn Baysali, Diamond Appraiser Officer,  
Ministry of Lands and Mines
30. Ms. Euphemia N. Yaidoo, Operations Manager,  
Liberia Industrial Free Zone Authority, Monrovia

C - SIERRA LEONE: GOVERNMENT AND OTHERS, FREETOWN, ETC

31. Mr. D. Kamara, Permanent Secretary, Ministry of Trade and Industry
32. Ms. L.D. Deigh, Permanent Secretary, Ministry of Mines
33. Mr. J.D. Sandy, Permanent Secretary, Ministry of Transport and  
Communications
34. Mr. V.T. Collier, Deputy Secretary, Ministry of Trade and Industry
35. Mr. Mohamed M. Bagura, Deputy Secretary, Ministry of Agriculture + Forestry
36. Mr. Douglas B. Mead, Head of Transport Department, Ministry of Transport  
+ Communications
37. Mr. M.B.D. Feika, Chief Conservator of Forests
38. Mr. Victor A. Deveneaux, Chamber of Commerce
39. Mr. Bo-Pujehun Rural Development Project
40. Mr. F. Bockarie, Planning Officer, Ministry of Transport and Communications
41. Mr. A.A. Ahmed, Ministry of Trade and Industry
42. Mr. M.A.A. Tunis, Small Industries Officer, Ministry of Trade + Industry
43. Mr. L. Tuboku, Metzger, Director Planning, Ministry of Planning and  
Economic Affairs
44. Mr. R.B. Johnson, Senior Planning Officer, Ministry of Planning and  
Economic Affairs



D - UNITED NATIONS AND OTHER INTERNATIONAL ORGANIZATIONS

45. Ms. M. Chinery-Hesse, Resident Representative, UNDP Freetown
46. Mr. Krishna Gowandan, Resident Representative a.i. UNDP Monrovia
47. Mr. A.M. Sallah, Deputy Resident Representative UNDP Freetown
48. Mr. Rajbhandhari, Deputy Resident Representative UNDP Freetown
49. Mr. I.F. Contreras, Senior Industrial Development Officer,  
UNDP Freetown
50. Dr. A.D. Montero, Team Leader, UNIDO Project, Ministry of Industry + Trade
51. Mr. George E. Williams, UNCTAD, Mano River Union Secretariat Freetown
52. Mr. S. Narapalasingham, Project Manager, UN/DPCD,  
Ministry of Development + Economic Planning  
Freetown
53. Mr. V.H. Pandya, World Bank Adviser, Bank of Sierra Leone Freetown
54. Mr. L.A.L. Borghode, Project Appraisal Expert, UN/DPCD,  
Ministry of Development + Economic Planning  
Freetown
55. Mr. S.K. Gupta, Economic Statistics, Central Statistics Office Freetown
56. Mr. Ernest L. Dow, Senior Forestry Adviser, FAO Monrovia
57. Mr. Jean B. Brisson, Training Officer, World Bank Project NIC Monrovia
58. Mr. Edward W. Pickad, Economist, World Bank Project NIC Monrovia
59. Ms. I. Anderson, UNIDO Junior Programme Officer, Freetown
60. Mr. A.H. Braithwaite, Rural Development Adviser, Ministry of Planning  
and Economic Affairs.

Note: In addition, contacts were made with a number of persons engaged in Industry and Trade and Entrepreneurs

LIST OF PUBLICATIONS, ETC. CONSULTED

A - MANO RIVER UNION

1. Mano River Union Feasibility Study on the Freetown-Monrovia Highway - Summary Volume I - December 1979.
2. Status Report on the Development of Agriculture Data Bank - MRU/EAD/AGRIC.III/4 - 1979.
3. The Mano River Declaration and its Protocols - General MRU/5 - 1979.
4. The Mano River Union List of Goods Originating in Member States - 1978.
5. Country Reports on Customs Regulations and Procedures MRU/E/CUS/PP-2/ 1980.
6. Union CIB Project - Mano River Union.
7. Ninth Meeting Report of the Working Committee of the Union Commission on Industry and Trade - MRU/E-CIT/WC/9 - 1981
8. Consolidated Report on the Restructuring of the Mano River Union - A/ORG/TC/5.1 - 1981.
9. Industrial Survey, Standardization and Quality Control - MRU Industrial Development Unit - November 1981
10. Industrial Survey for the Union Member States - MRU Industrial Project Development Unit - October 1981.
11. Market Survey and Promotion - Mabole Fruit Company - MRU Industrial Project Development Unit - October 1981.
12. Market Survey and Promotion for the Glass Container Industry - MRU Industrial Project Development Unit - November 1981.
13. Appendix to Foreign Trade Analysis - Industry Profiles - MRU Industrial Project Development Unit - October 1981.
14. The Investor's Guide to the Mano River Union Industrial Project Development Unit - November 1981.

15. **An Approach to Identification of Industrial Projects - MRU Industrial Project Development Unit - October 1981.**
16. **Functions and Structure of the Manpower Unit - Mano River Union Secretariat.**
17. **Mano River Basin Development Project - Feasibility Study Volumes 1 - 8 - March 1981.**

**B - LIBERIA**

18. **Annual Report of the National Investment Commission 1980, Monrovia, Liberia.**
19. **Statistical Newsletter - Liberia - November 1981, Ministry of Planning and Economic Affairs, Liberia.**
20. **Statistical Newsletter - Liberia Number 2-81, Ministry of Planning and Economic Affairs, Liberia.**
21. **Liberia Development Digest - Hydropower of the Liberian People - Liberia Electricity Corporation.**
22. **National Investment Commission (NIC) Investment Promotion Department, Monrovia, Liberia - Monthly Project Report - November, 1981.**
23. **Industrial Investment Opportunities in Liberia.**
24. **Annual Report of the Ministry of Commerce, Industry and Transportation, 1980 - Monrovia, Liberia.**
25. **Economic Survey of Liberia - Ministry of Planning and Economic Affairs, 1980.**
26. **Liberia Industrial Free Zone Authority - A Pamphlet.**
27. **Growth through Industrial Development - Liberia Development Corporation.**
28. **Small Business Loans - National Investment Commission Pamphlet, Monrovia, Liberia.**
29. **An Act Amending the Investment Incentives Code of the Republic of Liberia - March, 1973.**
30. **Liberia Industrial Free Zone Authority, Annual Report - Monrovia, Liberia.**

31. Ministry of Planning and Economic Affairs Annual Report, 1980.
32. Liberia Industrial Free Zone Authority Newsletter Vol. No.2 1981.
33. Industrial Development Brief - Liberia - UNIDO Publication 18244 dated 15.7.81.
34. Ministry of Lands and Mines Annual Report, Liberia, 1980.
35. An Act to Restore and Control the Diamond Industry in Liberia - September, 21, 1979.
36. Annual Report of Forestry Development Authority, 1979-80.
37. Liberia's Agricultural Development - Policy and Organisation Structure - June, 1980.
38. Operations Document - Liberia Industrial Free A Zone Authority.
39. External Trade of Liberia Exports 1979, Published July, 1980.
40. External Trade of Liberia Imports, 1979, Published July, 1980.

C - SIERRA LEONE

41. Ensuring equitable Growth - Sierra Leone - 120 Publication, 1981.
42. Sierra Leone Prospects for Growth and Equity for World Bank Report No. 3375-51 (1981)
43. Rural Roads Programme - Bo-Pujehun Rural Development Project.
44. Performance Evaluation of Industrial Sector in Relation to the National Plan UNIDO Project Report SIS/78/002 - April, 1980.
45. Index Numbers of Industrial Production for Sierra Leone - Bank of Sierra Leone, 1978-79.
46. Sierra Leone in Figures - Bank of Sierra Leone, July, 1981.
47. Economic Trends - Bank of Sierra Leone - April, June, 1981.
48. Annual Report and Statement of Accounts - Bank of Sierra Leone - 1971.

49. Industrial Review - Parts I and II - Sierra Leone, UNIDO-DP/ID/SERIA/321 dated January 1981.
50. Balance of Payments - Bank of Sierra Leone, June, 1981.
51. Economic Review - Bank of Sierra Leone - July-December, 1980.
52. Pre-feasibility Study for an Industrial Free Zone - Sierra Leone UNDP/UNIDO July 1981.
53. Sierra Leone Promotion of Small-Scale Enterprises Phase II - European Development Fund - September, 1981.
54. Promotion of Rural Small-Scale Industries and Handicrafts Project No. SI/SIL Sierra Leone - ILO/UNIDO Mission, November, 1981.
55. Industrial Review of Sierra Leone Part 2 - Existing Industries, its Perspectives,
56. Problems and Prospects - UNIDO Project DP/SIL/78/002 Report - September, 1978.
57. A Bill entitled: "The Small-Scale Industries Act 1981 - Sierra Leone.
58. Investors' Guide to Sierra Leone - Gustav Samba and Associates Co. Limited - July, 1981.

D - UNIDO AND OTHERS

59. Industrial Estates, Plans and Projects in some European and other Countries - United Nations CID/IE.1/2 - August 24, 1966.
60. The Role of Industrial Zones, Areas and Nucleus in Development Policies and Programmes with special Reference to the Promotion of Small-Scale Industries in the Experience of Italy - United Nations CID/IE.1/3 August, 24, 1966.
61. Pre-project Planning for Industrial Estates - United Nations - August 24, 1966 - Industrial Estates in Europe and the Middle East, UNIDO - 1968.
62. The Effectiveness of Industrial Estates in Developing Countries UNIDO/ICIS.32 - May, 20, 1977.

63. Industrial Estates Programme - The Indian Experience -  
D Nagaiya - SIET Institute, Hyderabad, India.
64. Report of Sub-Committee on Industrial Estates -  
Government of India, 1960 - Manual on Industrial  
Estates - Q.P. Mathur - SIET Institute, Hyderabad,  
India.

MANO RIVER UNION

In August 1964 a Free Trade Area Conference was held in Monrovia, Liberia. There the Prime Minister of Sierra Leone submitted a draft proposal. Its gist was that the Convention should:

- (1) establish an organization for achieving co-operation between the countries;
- (2) the supreme organ of the organization should be the Council of Ministers which should meet at least once in a year;
- (3) the Council should be supported by a Commission having representatives of Member States which should make recommendations to the Council and to initiate steps to implement the decisions taken;
- (4) the Commission should constitute various specialised committees on different facets of the desired areas of co-operation, and
- (5) the organization should have a Secretariat vested with the responsibility for effective administration.

The next step in this direction was taken in 1971 through the establishment of a Joint Ministerial Committee consisting of Ministers from the two countries, responsible for Planning, Finance, Education, Trade and Industry, Transport and Communications, Power and Works. The Committee was charged with the responsibility of handling all matters pertaining to economic and social co-operation between the two countries. Based on the recommendations of the Committee UNDP financed an interdisciplinary mission to assist the two Governments in achieving economic co-operation through developing economic, social and cultural ties. The report was submitted in February 1973, which stressed the need for

- (a) establishment of a Customs Union between the two countries and
- (b) formulation and implementation of policies for co-operation in agriculture and industry.

The Presidents of Sierra Leone and Liberia on October 3, 1973 signed the Mano River Declaration creating Mano River Union (MRU). Its main objectives set forth were to:

- 1) Intensification of economic co-operation;
- 2) Accelerating the economic growth, social progress and cultural advancement; and
- 3) Establishment of a firm economic foundation for lasting peace, friendship, freedom and social progress.

The Mano River Union contemplates the participation of other States in the West African sub-region subscribing to the aims and objectives of the Union and provides for either limited participation or full membership. The Peoples Revolutionary Republic of Guinea acceded to the Mano River Declaration and joined the MRU in October 1980 as a full member.

Activities:

MRU is essentially a Customs Union. Therefore it implies:

- (a) liberalisation of mutual trade in goods of local origin through elimination of tariff and non-tariff barriers;
- (b) harmonisation of rates of import duties and other fiscal incentives applicable to goods of local origin to ensure fair trading conditions and uniform protective policy for local producers.

The means identified for achieving the goal are:

- (1) elimination of all barriers to mutual trade;
- (2) co-operation in expansion of international trade;
- (3) location of conditions favourable to the expansion of mutual production capacity including progressive development of common protective policy; and
- (4) co-operation in the location of new production capacity.

The Declaration also mentions that MRU shall be established in two main phases and the first phase shall be completed not later than January 1, 1977 which includes:

- (1) Liberalization of mutual trade in goods of local origin, through the elimination of tariffs and non-tariff barriers to such trade.
- (2) Harmonisation of rates of import duties and other fiscal incentives applicable to "goods of local origin" in order to ensure fair trading conditions and introduction of a harmonised protective policy for local producers.
- (3) Introduction of supporting measures as may be considered necessary for developing co-operation in the production of agricultural and manufactured products of local origin.

MRU has taken certain steps to create institutional and legal framework of the Customs Union. It has formulated and implemented a common external tariff which covers about 90 per cent of the commodities imported into the Union from the third countries. Since May 1981 free trade arrangements for products of local origin have been effective and to qualify for them at least 35 per cent of the products ex-factory price shall consist of local value added.

The basic legal source of the MRU is the Declaration - which is the essence of the Treaty - as amended and/or supplemented by Protocol.\* (Up to end of 1981 nineteen Protocols have been added to



the Declaration.) There are two more such sources viz (a) resolutions of the Union Ministerial Council, notably the Union Commission on Industry and Trade, the Union Transport Commission, the Union Training and Research Board, the Union Postal Affairs Committee etc. and (b) the general principles of laws common to the Member countries.

---

\* As per the Union Document number MRU/5 dated January 5, 1979 the Protocols are issued in one or more of the following circumstances:

- When the Union Ministerial Council takes a decision which creates or significantly varies, an institution or an organ of the Mano River Union, and it is desired to embody the decision in a final act signed by the Heads of State.
- When the issue is one on which the Union Ministerial Council's decision should be publicly recommended and widely known by, for example, the general public, international and bilateral agencies, investors, businessmen etc. etc.
- When the Union Ministerial Council's decision is designed to have formal legal force.

The Protocols shall be an integral part of the Mano River Declaration.

The activities thus far covered by MRU are:

- (1) Co-operation in customs, trade and industry;
- (2) Harmonisation of excise legislations;
- (3) Transportation and free movement of persons, labour and services;
- (4) Creation of a single postal territory for the reciprocal exchange of letter post, parcel post and monetary items; and
- (5) Co-operation in the use of existing training and research facilities within the Member States.

The duration of the Declaration is unlimited. There is, of course, a procedure for it to be amended and/or supplemented by Protocols. The interpretation and application of the Declaration and Protocols are within the competence and jurisdiction of the national courts when Union measures affect or alter national legislations. Additionally, in the area of promotion of Union Industries, there is an arbitration procedure for the settlement of disputes relating to the decisions of the Union Commission on Industry and Trade relative to applications for this granting and issuing of Union licenses, investment incentive, contracts and guarantees. The procedure provides that an arbitral award shall be final and shall have effect in the Member States as if it were an arbitral award rendered within the national jurisdiction.

Organization:

The MRU originally had the following institutions:

1. The Union Ministerial Council
2. The Union Standing Committee
3. The Union Sub-committees
4. The Union Secretariat

As per the Second Protocol the Union could include such other organizations, bodies, departments and services as are provided for by the Mano River Declaration and its Protocols or by the Union Ministerial Council.

- Union Ministerial Council:

It consists of the Minister of Planning and Economic Affairs on behalf of the Republic of Liberia; Minister of Development and Economic Planning on behalf of the Republic of Sierra Leone; and Minister of Planning and Economic Affairs on behalf of the People's Revolutionary Republic of Guinea. It also includes Ministers responsible for Finance, Education, Trade, Industry, Agriculture, Transport, Communications, Power and Works of all the three countries. The other Ministers are expected to attend its meetings when matters of interest to them are on the agenda.

The Council is expected to meet at least once in a year and all its decisions are reached on the basis of consensus and are made by means of resolutions.

- Union Standing Committee:

It is composed of such top ranking officials as the Governments may designate. This Committee is expected to meet immediately before the Union Ministerial Council's ordinary meetings to consider the issues to be discussed and prepare an agenda for the meetings of the Council.

- Union Sub-committees:

Six sub-committees of the Union Ministerial Council were established. These are:

1. Trade and Industry
2. Agriculture, Forestry and Fisheries
3. Transport and Communications
4. Education, Training and Research
5. Finance and Administration
6. Energy and Natural Resources

The sub-committees consist of senior professional officers of the Agencies of the Governments and professionals directly concerned with the fields involved; as the Governments designate. Each sub-committee is expected to meet at least once in a year, some of these sub-committees are now known as Union Commissions.

- Union Secretariat:

It is headed by the Secretary-General and has a Deputy Secretary-General. It has Directors who also serve as secretaries to the Union Commissions' sub-committees. The existing organizational chart is given in Appendix A. A proposal for reorganising the Secretariat is under active consideration. As per that there will be three Divisions viz: Division for Development Planning, Division for Project Implementation and Management, and Division for Administration and Finance. The former two Divisions will be under the charge of the Deputy Secretary-General for Technical Services, and the third Division along with sub-offices of the Union at Monrovia and Conakry will function under the Deputy Secretary-General for Administration.

The Division for Development Planning is to have nine sections for Statistics, Trade integration, Financial Technical Assistance and Co-ordination, Agriculture development, Industrial development, Agro-based industries, Transport and Communication, Development of energy resources and Manpower planning. Besides Investment and Development Unit

will be attached to this Division. The Division for Project Implementation and Management is to have under its control Development Projects, Union Training Institutions, Union Curriculum Planning, Instruction Material, Production and Book Development Project (CIB), and Human Resources Development Programme. The Division for Administration and Finance will be composed of Personnel Unit, Documentation and Records Unit, Accounts Section, General Services Unit and Conference Officer. Besides the above establishments, the Secretary-General will also look after Appointment Promotion Committee, Staff Council, Legal Unit, Public Relations Unit and Internal Auditing Unit. The details of the proposed set up in the form of a chart are shown in Appendix B.

- The Union Ministerial Council:

The Union Ministerial Council forms working groups as and when it considers that necessary for having a detailed expert consideration to specified issues. These groups are formed on ad hoc basis and consist of senior officials and other professionals who are directly responsible for the day-to-day activities concerning the issues under consideration. The council also appoints liaison officers in respect to specific projects and they provide the Secretariat with all background information in respect of studies that the Union Secretariat has been entrusted to undertake. They are officers who have the knowledge and access to the type of information pertinent to the studies to be undertaken.

- The Union Commission on Industry and Trade:

Industrialization should among other things focus on goals like meeting the basic needs of the population, creation of new job opportunities, saving of living standards and securing a fair distribution of benefits among the Member States and their people. In order to achieve this, the Union Commission on Industry and Trade was established. The Commission consists of Ministers of the Member States responsible for Planning, Industry and Trade and Finance and the Secretary-General of the MRU is the Secretary to the Commission. The functions of the Commission are briefly as follows:

- (a) To make proposals to the Member States and to take decision in implementing the Union Investment Incentives granted under Investment Incentives Contracts.
- (b) To take measures concerning industry, customs and trade within the Union as provided in the Mano River Declaration and its Protocols.
- (c) To establish and to regulate its own Rules of Procedure subject to the Protocol.

The Commission is to meet at least once a year. Special meetings for specific purposes can also be arranged. The Commission is to arrive at its decisions by the consensus of all its members and if that is not

possible then the matter is to be submitted for decision to the next meeting of the Ministerial Council. The Ministers of Planning are to ensure that decisions taken by the Commission when affecting national authorities or national legislations are appropriately carried out in accordance with applicable national procedures by the relevant national authorities as expeditiously as possible.

- Union Postal Affairs Committee:

The Committee consists of the Ministers responsible for Postal Affairs, Transportation and Finance of the Member States. The MRU Secretariat provides the secretary to the Committee and with such services as may be required for its proper functioning. The Committee meets at least once in a year. There is provision for special meetings. It arrives at decision by a consensus of opinion. Its main functions are to:

- (a) ensure co-operation for efficient postal services;
- (b) make provision for mutual technical assistance and arrangements for required training facilities; and
- (c) recommend to the Union Ministerial Council adoption of necessary rules and regulations.

- Union Transport and Communication Commission:

The Commission represents the Member States and consists of Ministers of Transport, Traffic Enforcement Matters, Public Works, Planning and Finance. The Secretary-General serves as Secretary of the Commission. The Commission promotes and develops a co-ordinated and integrated system of transport services, determines the transport rates, ensures harmonisation of applicable national laws and regulations and establishes and promulgates rules and regulations on licensing of intra-Union traffic. The Commission meets at least once in a year. There is provision for special meetings. A Union transport fund has been created and is operated by the Commission. The resources of the fund include annual contributions from the Governments, any moneys derived from the sale of surplus goods and services and assets of the fund and all moneys from any source provided for, donated or lent to the fund.

The other sub-committees/commissions, namely those for Finance and Administration, Agriculture, Forests and Fisheries, Education, Training and Research broadly operate on identical principles as mentioned above in respect of Union Technical Commission for Transport and Communications.

MRU has a developed mechanism for undertaking promotion of industrial estates and areas if those form feasible propositions for accelerating industrial growth.

Principles and Policies for Promotion of Union Industries:

The Union industries are to be established for utilising the joint markets of the Member States. In order to qualify as a Union industry the manufacturing establishment should be one as defined by the International Standard Industrial Classification of the United Nations and must be located in one of the Member States. Further it should have been approved by the Union Commission on Industry and Trade as per the established terms and conditions, and given a Union license (details given in Appendix C). The approved investment project qualifies for Union Guarantee (more information is given in Appendix C), conferring an exclusive right in production and marketing of the specified products and protective measures, such as tariff protection and quantitative restrictions for the duration of the guarantee. The sponsor can also apply for a Union Investment Incentive Contract which provides advantages like:

- (i) Union tariff protection when necessary for the period of this investment incentive contract;
- (ii) Unrestricted transfer of funds within and outside the Union for normal commercial purposes;
- (iii) Drawback of import duties paid on materials used, or component parts, in producing goods exported from the Union or warehoused for export;
- (iv) Use of industrial estates when available and suitable;
- (v) Exemption from income tax for a period to be determined by the Commission and specified in the Investment Incentive Contract;
- (vi) Exemption from payment of import duties on approved import of machinery and equipment to be used in establishing the approved investment project;
- (vii) Exemption of up to 90 per cent from the payment of import duties on raw materials and semi-processed products of the approved investment project;
- (viii) Compensation to the investor or sponsor for any economic disadvantage he may suffer as a result of location in a place other than that proposed by the investor/sponsor; and
- (ix) Any other benefits or incentives agreed upon.

The criteria for obtaining a Union Investment Incentive Contract are more or less similar to those for obtaining the Union license which are mentioned in Appendix C.

The obligations of the investor/sponsor as regards to Union Licence are:

- to implement the project in compliance with the licence;
- to permit such audits as may be necessary to ascertain compliance with the licence;
- to submit and file annual income tax returns;
- to submit audited annual balance sheets and profit and loss statements;
- to submit such reports, as may be necessary, to ascertain compliance with the licence and to submit a statement from the chief executive officer of the project on compliance with the licence.

Its obligations in respect of Union Investment Incentive Contract and Union Guarantee are also more or less similar to those listed above for the licence. In regard to all these, namely Union licence, investment incentive contract and guarantee, the obligations of the Member States are to investigate and determine any material violations, to take immediate corrective action in respect of such material violation, to notify the Secretary-General of such corrective actions taken and to take other appropriate measures in relation thereto and in respect of the execution and enforcement of the principles and policies for the promotion of Union industries. The obligations of the Mano River Union are to investigate promptly any alleged violations, to submit promptly the report of the investigation of the alleged violations to the Commission, to determine whether or not a material violation has occurred and then to take appropriate action.

The procedures for applying and processing of Union licence, Union Investment Incentive Contract and Union Guarantee have been laid down and the details are given in Appendix C. The information sought includes biographical data of investor nature, of industry, financial resources, project proposal specifying for six years the nature of the business, location, requirements of land, machinery, motive power, manpower, capital, installed capacity, projected balance sheet, profit and loss statement etc. The processing is done by the Union Secretariat. A paper bringing out salient features of this proposal with recommendations is put up by the Secretariat to the Union Commission for decision within thirty days of the hearing.

- Industrial Development Unit (IDU):

One of the major functions of MRU is the industrial development of the Union in general and Member States in particular. In order to effectively and expeditiously fulfil this task, an Industrial Development Unit (IDU) was established within the Secretary-General's Office in February 1980. IDU is an EEC-sponsored project based on technical assistance as provided by the Industrial Development Partnership ATLANTA/HAG, Germany. IDU is helping MRU Secretariat and Member States in their efforts towards harmonised industrialization mainly based on the local resources and making best use of the specific potentials that the Member States could

offer. IDU is engaged in:

- (1) The analysis of foreign trade to identify suitable industrial projects in line with the national industrialization policies and selling the project ideas.
- (2) Conducting of industry and standardization survey, particularly to identify production potentials for intra-Union trade, to improve and to extend production and capacity utilization and to identify new and complimentary project ideas.
- (3) Evaluating and updating the base-line investigations in line with the Union industrialization policies, particularly for the benefit of the potential investors.
- (4) Counselling the existing industries in the Member States with special reference to economic co-operation including joint ventures and intra-Union trade.
- (5) Establishment and functioning of a documentation and library system and equipping that among other things with industrial information.
- (6) Preparation of technically feasible, economically viable and financially sound project profiles for the identified products and evaluation of the projects submitted by the investors.

Identified Industrial Projects:

The Union Commission on Industry and Trade has certified the suitability of the industries mentioned in Table I below for consideration as Union Industries.

<u>Serial No.</u>	<u>Name of Industry</u>	<u>Location</u>	<u>Status of Implementation</u>
1	Agriculture tools and implements	Sa. Leone	Being implemented
2	Sardinella Fishery Fleet	Sa. Leone	Temporarily withdrawn
3	Fruit + Vegetable Processing	Sa. Leone	Implemented but not in operation
4	Cassava Pelletising	Liberia	Being implemented
5	Glass Container Production	Liberia	Being implemented
6	Soap and Detergent Production	Liberia	In production



<u>Serial No.</u>	<u>Name of Industry</u>	<u>Location</u>	<u>Status of Implementation</u>
7	Synthetic Textile Production	Liberia	
8	Cotton Textile Production	Sa. Leone	
9	Integrated Textile Complex		Temporarily withdrawn
10	Dry cell battery Production		Temporarily withdrawn
11	Rubber Products Production		Project evaluated
12	Steel Rolling Mill		
13	Pulp and/or Paper Production	Liberia	Project evaluated
14	Edible Oil Production	Sa. Leone	
15	Alumina Production	Sa. Leone	
16	Jute and Jute Substitute Processing	Sa. Leone	Being implemented
17	Salt production	Sa. Leone	Project evaluated
18	Cocoa processing		
19	Coffee processing		

Source: Investors Guide - Industrial Development Unit - Mano River Union

Some further work has been done in project identification. The import pattern of the Member States has been studied along with market expectations. It has been further scrutinised from the angle of the anticipated overall positive development impacts on the economies of the three Member States. The findings are mentioned in the following Table II:

Supplementary List of Potential Union Industries

<u>Serial No.</u>	<u>Production Activity</u>	<u>Remarks</u>
1	Instant coffee	Project profile available
2	Tomato juice and tomato concentration plant	Project profile available
3	Natural yeast	Project profile available
4	Soup concentrates in cubes	Project profile available

<u>Serial No.</u>	<u>Production Activity</u>	<u>Remarks</u>
5	Starch and glucose from cassava	Project profile available
6	Fish canning plant - Inland fishery	
7	Mobile palmoil mini-mill	Project profile available
8	Poultry farming	
9	Animal Feed plant - enriched roughage and supplements	Project profile available
10	Artificial leather	Project profile available
11	Charcoal production plant	
12	Wood-fired power plants	
13	Rubber processing, excluding tyres and tubes	
14	Paper pulp	
15	Wrapping paper	
16	Garment production for exports	Project profile available
17	Biogas production	
18	Glass fibre reinforced Polyester products	Project profile available
19	Pharmaceutical products	Project profile available
20	Synthetic paints and coatings	Project profile available
21	Detergents granular solid and liquid	Project profile available
22	Insecticide production	
23	Bleach production	
24	Plastic pipe production	
25	Spare parts workshop	Project profile available
26	Maintenance workshop for vehicles	Project profile available

Source: Investors Guide - Industrial Development Unit - Mano River Union

Identification of suitable industries is a continuous process. Further work on the subject is in progress.

There are certain other industry-related projects which are in the pipeline and are engaging the attention of the MRU Secretariat. These include permanent exhibition of locally produced goods, establishment of trade fair for goods of local origin, Union sealink project and establishment of a Union Technology Development Centre.

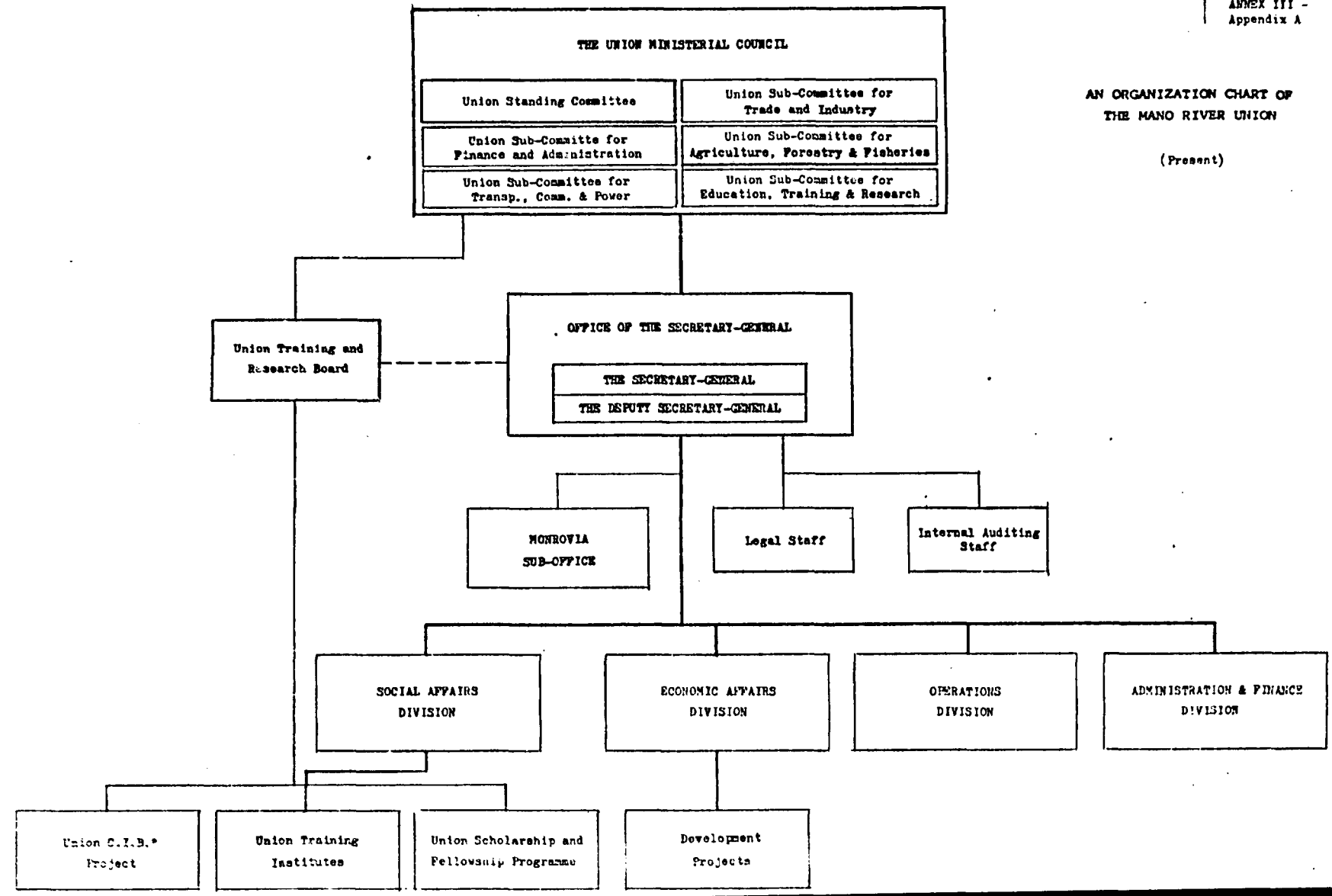
The progress made is remarkable in respect to adopting principles and policies for promotion of Union Industries, development of institutions for identification of suitable industrial opportunities, project formulation and evaluation, building up of industrial information, introduction of a viable system for identification of Union Industries, issuing of manufacturing licence, execution of Union Incentive Contract, provision of Union Guarantee and monitoring the implementation of accepted projects. Further, the other pipeline projects like organising trade fairs and establishing Union Technology Development Centres should go along way in ensuring fast industrial growth, particularly when MRU is also running some institutions for creating industrial skills. The system for approval of projects and management of the enterprises is quite conducive to the growth of a healthy industrial sector.

Industrial Status and Development of Member States:

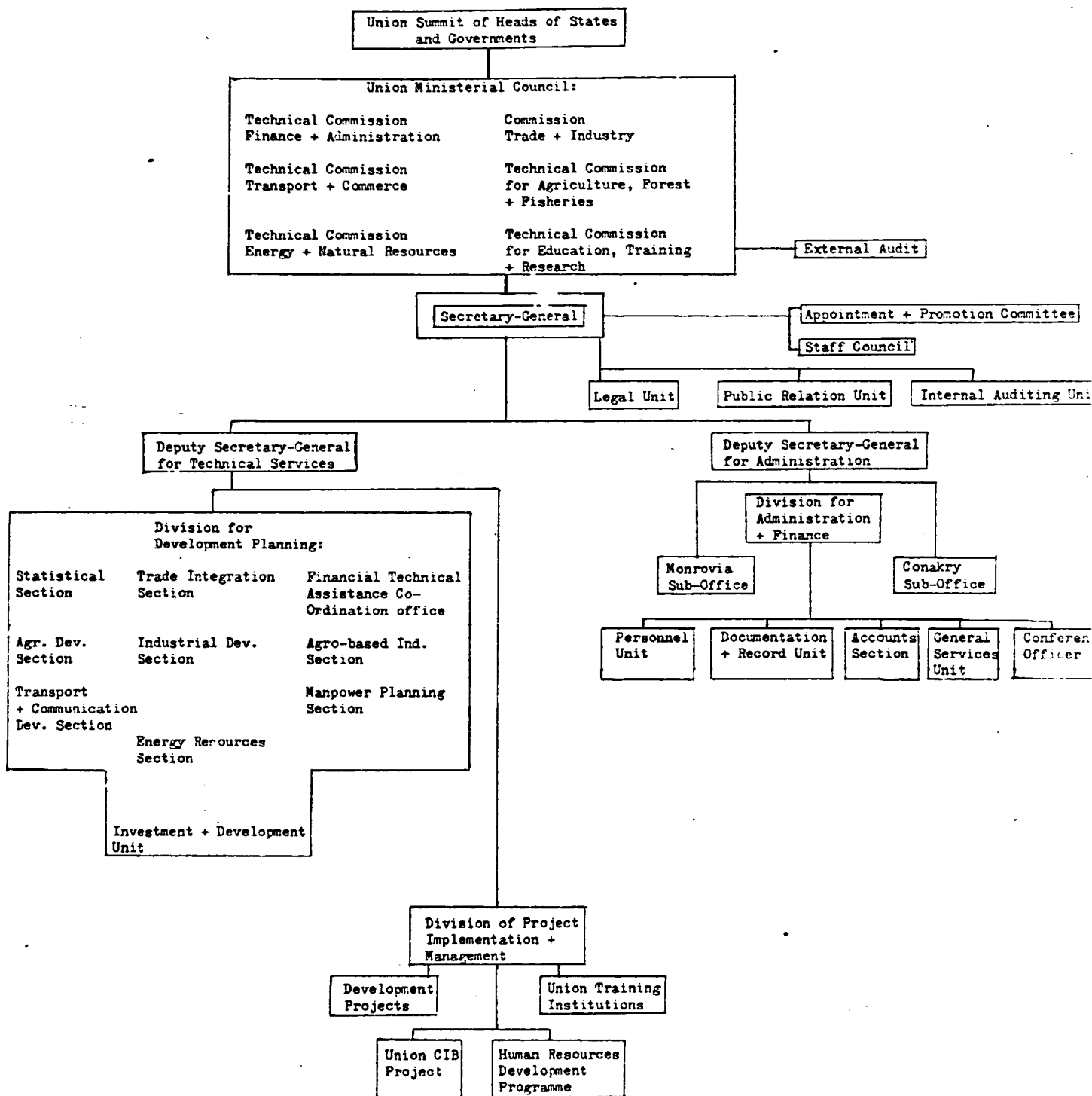
The MRU includes Liberia, Sierra Leone and Guinea as its Member States. The industrial policies, strategies, institutional framework and the status of the programmes of development having bearing on growth of industry in each of the countries have significant influences on the role which MRU can play to accelerate the development of healthy and strong industrial sector. The available data are given separately for each Member Country.

AN ORGANIZATION CHART OF  
THE MANO RIVER UNION

(Present)



PROPOSED ORGANIZATION CHART OF THE MANO RIVER UNION



1. DEFINITIONS RELATED TO "UNION INDUSTRY STATUS"

1.1 Union Industry

A Union Industry is one that has fulfilled the undermentioned requirements:

- (1) is within the definition of the International Standard Industrial Classification (I.S.I.C.) of the United Nations. It must undertake projects in the Union that process, fabricate, or manufacture finished and semi-finished goods from component parts or must belong to any one or more of these sectors:
  - a) agriculture
  - b) forestry and fishing
  - c) electricity, gas and water where such enterprises are not run as State undertakings or similar agencies
  - d) mining and quarrying
  - e) building and construction
  - f) transport and communications
  - g) those sub-sections of the services sector which provide technical services to the sectors listed above
  - h) tourism
  - i) any combination of the sectors and sub-sectors enumerated in (i-h) above
- (2) must either principally be located or have its proposed principal location in one of the Member States of the Union;
- (3) must have been approved as such by the Commission (Union Commission on Industry and Trade)

1.2 Union Licence

- (1) A Union Licence is a licence issued by or on behalf of the Union Commission on Industry and Trade to an investor or sponsor that has been granted Union Industry Status under the Twelfth Protocol to the Mano River Declaration.

- (2) Where the applicant for Union Industry Status is an existing Company or proposed to establish as a Company before it is granted a Union Licence it shall produce evidence of incorporation under the laws of the Member State where it is principally located or proposes to have its principal location.

### 1.3 Union Investment Incentive Contract

A Union Investment Incentive Contract is a contract between the Mano River Union and the investor or sponsor of an Approved Investment Project setting out the investment incentives and benefits granted by the Union in respect of the Approved Investment Project and the mutual obligations of the Parties thereto.

### 1.4 Union Guarantee

A Union Guarantee is essentially an undertaking by the Union to an investor or sponsor of an Approved Investment Project that it will not for the duration of the guarantee grant a Union Licence to produce and make similar goods or services to another investor or sponsor thereby conferring upon the grantee an exclusive right in the production and marketing of the products in respect of which the Guarantee is granted.

## 2. BENEFITS OF UNION INDUSTRIES TO THE INVESTORS AND SPONSORS

### 2.1 Union Licence

- (1) free transfer of goods which the industry produces within the Member States

- (2) free movement of personnel for the purposes of the enterprises between the Member States
- (3) right to apply for a Union Investment Incentive contract.

## 2.2 Union Investment Incentive Contract

- (1) union tariff protection when necessary for the period of the Investment Incentive Contract
- (2) unrestricted transfer of funds within and outside the Union for normal commercial purposes
- (3) drawback of import duties paid on materials used or component parts in producing goods exported from the Union or warehoused for exportation
- (4) use of industrial estates, when available and suitable
- (5) exemption from income tax for a period to be determined by the Commission and specified in the Investment Incentive Contract
- (6) exemption from payment of import duties on approved imports of machinery and equipment to be used in establishing the approved Investment Project
- (7) exemption of up to 90 percent from the payment of import duties on raw materials and semi-processed products of the Approved Investment Project
- (8) compensation to the investor or sponsor for any economic disadvantage he may suffer as a result of location in a place other than that proposed by the investor or sponsor
- (9) any other benefits or incentives agreed upon,



GENERAL AND INDUSTRIAL REVIEW OF LIBERIA

General:

The total area of the country is 111,400 square kilometers. The estimated total population in 1979 was about 1.8 million persons and 1,91 million in 1981 with an estimated aggregate growth rate of 3.3 per cent per annum. The average annual per capital income during the year was US\$ 470. The total labour force was estimated in 1979 at 508,000. It increased by about 18.27 per cent (78,768) over 1974.

Economic Performance:

The Gross Domestic Product at constant prices (1975) has risen from US\$ 453 million in 1968 to US\$ 626,6 million in 1977. It was highest (US\$ 665.1 million) in 1974 barring which it has remained more or less stagnant around US\$ 625 million during 1972 - 77. During 1977 services accounted for 37.7 per cent of GDP, mining and quarrying for 33.5 per cent. Utilities for 12.1 per cent, agriculture 11.3 per cent, manufacturing 9.3 per cent and construction 6.3 per cent. The share of manufacturing in GDP during 1968 was 3.8 per cent. More details are given in Appendix A.

External Trade and Balance of Payments:

The value of the main exports for the years 1970 to 1978 are given in Appendix B. These amounted to US\$ 486,3 million during 1978 from ore-dominated exports in 1970 accounting for 63.9 per cent and rose to 74.4 per cent in 1975 and reduced to 56.4 per cent in 1978. Rubber was the second largest foreign exchange earner dropped from 16.1 per cent in 1974 to 11.7 per cent in 1975 and in 1978 its contribution stood at 14.2 per cent. Exports were estimated to grow at a rate of 5 per cent per annum. The recession in the Europe and Japanese iron and steel industry reduced the demand for iron ore and there was a decrease in the world demand for natural rubber. The volume of domestic exports as published in the statistical newsletter of the Ministry of Planning and Economic Affairs, November 1981 issue, were \$ 574,8 million in 1980 and \$ 394,6 million during January - September 1981.

The value of the imports during 1970 - 78 by major groups of commodities is given in Annex VII. These amounted to US\$ 480.4 million during 1978. The minimum share of imports in 1978 was of machinery and transport equipment followed by manufactured goods, mineral, fuel and food and live animals. During 1973 - 78 imports grew at a rate of 13.6 per cent per annum. The value of imports as reported in November 1981 newsletter was \$ 533.9 million in 1980 and \$ 335.1 million during January - September 1981. The country has been enjoying a favourable balance of trade over the years. However, this has limited meanings in terms of availability of foreign exchange. Since it is not necessary for the

exporters to bring back to the country the earnings from export. If they so choose the funds can be retained abroad and this has been happening more and more in the recent past. The details of Balance of Payments from 1974 to 1978 are given in Appendix D.

#### External Debts:

The outstanding and disbursed external debt of the country at the end of 1978 was US\$ 341.5 million, i.e. 52 per cent of the current GDP (at factor cost). Its details for 1974 - 78 are given in Appendix E. As of December 31, 1975 suppliers credit and private bank credits accounted for only 7.5 per cent of the total outstanding debt while 92.5 per cent originated from bilateral and multi-lateral sources. By the end of 1978 the share of bilateral and multi-lateral institutions declined to 75 per cent. The grant element in the external debt committed in 1974 was 36.1 per cent with 5 year grace period. By 1978 the grant element was reduced to 21.1 per cent and the grace period was 9 years. Of the total new borrowings 45 per cent were for physical infrastructure projects and 20 per cent for non-development purposes. Only 35 per cent of the borrowings are directly related to projects aimed at increasing production, GDP and exports.

#### Transport and Communications:

The road system was made up of 4,542 miles in 1974 of which 3,148 miles were public roads. Of public roads 208 miles were asphalt surfaced, 1675 miles laterite and 1265 miles dry weather. Railway line has a total length of 300 miles. There are four lines owned by missing companies. There are no passenger trains. The 165 miles Nimba-Buchanan railway is under contract to carry general freight and luggage. The ports handled over 545,000 tons of general cargo in 1975 plus about 18 million tons of iron ore. The four main seaports are Monrovia, Buchanan, Greenville and Cape Palmas. There were 2,667 vessels in 1977 which constituted 50 million tons of commercial fleet sailing under Liberian flag. Nearly 10 per cent of the Government revenue is derived from vessels registration fees. Air transport focusses on two major local airports namely Robertsfield and Spriggs Payne. There are over 8,400 telephones in use, two radio stations and a television station which is partially private owned.

#### Energy:

In 1977 the public power supply capacity was 399 million kwf of which 67.6 per cent was hydroelectric power from the Mount Coffee Plant. Half of the total generating capacity is in the private sector. An expansion programme for Monrovia is being undertaken. Projects for rural electrification and a hydro-electric scheme on the Cavalla River near Nayaake in co-operation with the Ivory Coast are being studied. Electricity is of 60 cyder and distributed at 110 volts.

### Agriculture:

18 per cent out of the total 31.8 per cent contribution of agriculture in GDP in 1978 was from the traditional sector. The fourth of the value added in agriculture emanates from farms owned by local people. Almost 90 per cent of the agriculture households grow rice, the acreage of which is estimated to have increased from 497.000 acres in 1974 to 525.000 acres in 1978 - the main pattern has been the growth of rice and tree crops. Important cash crops include rubber, coffee, cocoa and palmoil. Coffee production increased three fold from 1974 and it reached 10.566 tons in 1977. Despite the increase of 25 per cent in the cocoa acreage and 18 per cent of the number of households growing cocoa, production did not increase remarkably because of tree disease.

### Forestry:

The forest reserves are considerable and the sustained yield of wood is between 2 to 3 million cubic meters. In 1978 there were 48 concessions operating in an area of 9.4 million acres of forest land. The average annual growth rate of forestry value added was 30 per cent in 1978 and its share in GDP during 1975 - 78 doubled from 2.5 per cent to 5.0 per cent. The export earnings increased from US\$ 17.6 million to US\$ 54.9 million, i.e. from 4.4 per cent of total exports to 11.3 per cent. The Government has established "processing rules" under which concessionaires are obliged to process locally at least 40 per cent of the logs.

### Minerals:

Iron ore deposits dominate the mineral resources of the country. The other important ones are diamond and gold. Diamond exports in 1978 fetched US\$ 80.0 million, i.e. 6 per cent of the total merchandise export earnings. It is proposed to carry out gold exploration covering good square kilometers in eastern Liberia. The capacity of the existing iron ore mines in 1978 was 22.8 million tons per annum whereas actual production was 17.8 million tons. It is reported that the three mining companies incurred a loss of US\$ 30.0 million in 1978 due to lower production and higher cost of equipment. Other minerals include copper, lead, zinc, heavy mineral sand (rutile, ilmenite, zirconmonazite), barite and kyanite.

### Main Development Constraints:

(1) Shortage of qualified and competent personnel in managerial, technical, engineering and scientific cadres is a severe constraint on the industrial development in Liberia, resulting in weaknesses in business administration, incapacities in technical operations of

industrial plants, inability to establish effective co-ordination of operations of financial institutions and industrial corporations, lack of continuous project identification, formulation and evaluation and implementation.

(2) Well co-ordinated and self-sustaining institutional infrastructure to provide harmonised and mutually reinforcing services does not exist. Therefore there are conflicts, contradictions, rivalries and duplication in the activities and operations of the institutions. Consequently, many of the public corporations look to the state treasury for subsidies which has adversely affected the public finances in Liberia.

(3) Shortage of funds is another important constraint. Due to growing overall deficit, government has been experiencing more and more problems in providing adequate capital to its parastatal industrial and financial institutions. Public corporations, due to lack of profits to be ploughed back, are borrowing so heavily from commercial banks that little credit is left for the private sector enterprises. Credit to small enterprises from commercial banks has been inadequate, also due to weak management capacity, poorly prepared projects and lack of adequate collateral.

(4) The small size of the domestic market does not permit support for many types of technically feasible, economically viable and financially sound enterprises. The effect of the activities of MRU has still to be felt. Export markets too will have to be explored if Liberia is to establish fairly large-scale manufacturing enterprises.

#### Industrial Sector - Performance and Potentials:

The manufacturing sector is characterised by high capital intensity, low net value added ratio, high dependence on imports, insignificant intersectoral linkages, mainly producing consumer goods for domestic market and low rates of capacity utilisation. Gross output by major industry groups and number of establishments in each of these groups for 1972 to 1977 are shown in Table I of Annex X. It could be observed therefrom that (i) in 1977 furniture and fixture formed the largest industrial sector accounting for 28.2 per cent of the total gross output at current prices. It was followed by beverages 25.3 per cent and food products 19.7 per cent and (ii) number of establishments grew from 27 in 1972 to 47 in 1977, having largest concentration of food and wood products (11 each). The data does not cover the artisan small-scale enterprises. The employment provided by the manufacturing sector was to 5164 persons in 1978 as against 2554 persons in 1972. Wood products sub-sector was the largest single employer and that is followed by beverages whereas the third place is occupied by food products.

The industrial potentials in Liberia would be and large depend upon the elimination of the main constraints which have already been

mentioned. If export markets could be located, then various resources-based industries could be established. Liberia has fertile soil and adequate rainfall which permits growing of variety of tropical cash and food crops, resulting in promotion of agro-based enterprises. Fisheries is another area for industrial development. Rubber and palm oil attract a variety of industries, wood-based activities in the form of sawwood, plywood, veneer etc. could be developed along with knock-down furniture, window and door frames, pre-fabricated wooden houses and standardised wooden containers. Besides such large-scale enterprises there is also ample scope for growth of small and medium-scale industries catering also to import substitution of industrial products. The pace of growth cannot be increased substantially if industrial extension service credit facilities and entrepreneurship development programmes are multiplied and liberalised.

In Liberia a small-scale enterprise is defined as the one having assets up to US\$ 55,000 and employing 1 - 10 persons. The medium-scale unit can have assets up to US\$ 250,000, a turnover up to US\$ 500,000 and employment between 10 - 20 persons. The large-scale factories have employment between 50 - 200 persons and annual turnover ranging between US\$ 1 - 3 million.

#### Industrial Policies, Strategies and Institutions:

A New Plan is being drafted and its details were not available. The main objectives of the 1976 - 80 plan were:

- (1) diversification of production
- (2) dispersal of sustainable socio-economic activities throughout the country
- (3) total involvement of the entire population in the development effort and
- (4) equitable distribution of benefits of the economic growth and diversification to ensure an acceptable standard of living to all the people.

The main criticism of the Plan is that it dealt with public sector investment only and there too it did not define inter-sectoral priorities and what policy measures were needed to help to achieve the goals set in the plan.

The total outlay of the plan was US\$ 585 million of which only US\$ 16 million was allocated to manufacturing. It was envisaged that US\$ 164 million will be provided from domestic revenue and US\$ 326 million would be from external sources bearing a financial gap of US\$ 95 million. However the plan was later on revised and financial outlay reduced to US\$ 510 million of which US\$ 170 million was to be provided through domestic revenue and US\$ 340 million from external sources.

In the field of industry Liberia pursues an "open door" policy to attract foreign investment. The main policy instruments in this respect have been the Development Plan, Investment Code, the Mano River Union, the Liberian Industrial Free Zone and Monrovia Industrial Park. All these aimed at promoting industry through broadening the markets.

The investment incentives available mainly are:

- (a) 90 per cent duty exemption on imported machinery, equipment and inputs,
- (b) complete tax exemption on re-invested profits and 50 per cent exemption on the remaining profits,
- (c) rebates on export duty income and excise taxes on manufactured exports,
- (d) reasonable tariff protection and
- (e) other miscellaneous benefits such as accelerated depreciation, lease of land in the Monrovia Industrial Park etc.

The incentives cover a period of five years with a possibility of two years extension. To qualify for incentives the investment must fall within the priorities of the National Planning Council and in particular they must ensure employment of Liberians, provide training for nationals, leave option for Liberian ownership and produce local value added of at least 25 per cent of the value of gross output and use local materials and inputs as much as feasible. However in spite of this there has been

- (a) increased imports and lack of export capacity in manufactures,
- (b) establishment of capital intensive industries creating only few employment opportunities,
- (c) conferring of large "non-economic" profits to owners of large firms through tariff protection and monopolistic market structures and those have not been re-invested in the country to generate employment and production.

There are a number of institutions meant for supporting and promoting industrial development. There is the Ministry of Trade and Industry which is the main institutional organ involved in initiating and implementing industrial policies. The other institutions are the Ministries of Finance, Planning and Economic Affairs, and Agriculture, the National Investment Commission and the Liberia Bank for Investment and Development. There is an Investment Incentives Committee. If the total fixed capital required for a new project exceeds US\$ 150,000 the Secretary of Trade and Industry, or of Agriculture, is required to submit the application for an Investment Incentives Contract to the National Planning Council for approval. For lesser amounts the Committee itself considers.

The Liberian Bank for Industrial Development and Investment (LBIDI) started operation in 1965 for

- (a) assisting in the establishment, expansion and modernisation of private productive business and industrial enterprises in Liberia

and mobilising internal and external capital for financing industrial and other enterprises, and

(b) encouraging, sponsoring and facilitating private establishment, acquisition or ownership of productive business and industrial investment share and securities. To enable to achieve these LBIDI was empowered to make medium or long-term loans, to subscribe to equity capital, to act as a guarantor, to underwrite, to supply technical assistance to undertake promotional activities. LBIDI has experienced a low rate of cancellation of projects after the approval of the Board. The challenges faced by LBIDI in developing business includes

- (1) limited investment opportunities
- (2) limited capable interested project sponsors,
- (3) low earnings which allow bank little room for costly promotional efforts,
- (4) to own equity which limits the size of the project it can finance. With acceptable risk and (5) limitations in the number and abilities of its staff. However the bank has made good progress. It is seeking a change in the Act to enable it to finance public projects. It is to limit such financing to 30 per cent of its portfolio.

The National Investment Commission (NIC) was created in September 1979 for co-ordinating the investment policies and encouraging the development of the free enterprise system. It absorbed two institutions namely the Liberia Development Corporation (LDC) and the Concession and Investment Commission. The NIC Chairman is appointed by the President of Liberia. It has three departments viz:

- investment promotion (for reviewing and recommending approval of applications for large new investments);
- finance and administration and for small and medium enterprises (SME). SME department has two major objectives, i.e. (i) strengthening the capabilities of existing SMEs so as to increase their growth to enhance their linkages with the Government and large industries and to develop their employment capabilities and (ii) increasing the rate of new enterprises. The rate of employment generation and the share of GNP originating in the SME sector to achieve these the department undertakes (a) the promotion of new enterprises, (b) preparing investment proposals suitable for presentation to financing institutions, (c) conducting sectoral studies to identify project opportunity, (d) assisting promoters in implementation of the projects and (e) providing technical and managerial assistance to new and existing enterprises.

#### Financing Institutions:

The National Bank of Liberia (NBL) was established with the assistance of the International Monetary Fund (IMF) in 1973 to supervise overall banking activities, to perform clearing house operations, to extend credit to the Government and banks and to regulate the supply of currency. NBL in 1978 introduced certain measures designed to absorb excess liquidity of commercial banks, to encourage savings and to reduce demand for credit. Further during the same year NBL introduced a Credit Guarantee Scheme to encourage commercial banks to lend to Liberian entrepreneurs.

There are seven commercial banks which operate in Liberia. These are Bank of Liberia, Chase Manhattan Bank, Bank of Monrovia, International Trust Company, the Liberian Trading and Development Bank, the Bank of Credit and Commerce, International and the Liberian Finance and Trust Company. The commercial banks are the most important source of funds in Liberia. Except for the Bank of Liberia and the Liberian Finance and Trust Company, the top and middle management is expatriate. Total Commercial Bank loans and overdrafts to the private and public sectors have grown from US\$ 75 million in December 1974 to US\$ 185 million in September 1979. The bulk of the lending has been to trade (43 per cent) credit, to public corporations (22.4 per cent) and agriculture (rubber and forest plantations). The share of manufacturing has been hardly 5.7 per cent. These banks are reluctant to lend to small and medium industrial enterprises because they consider those to be credit risks. The National Housing and Saving Bank established in 1976 also provides normal commercial banking service. The Agriculture and Corporate Development Bank established in November 1976 because of its presence in rural areas is important for the development of rural industries. There is also Liberian Bank for Development and Investment. Its activities have been mentioned earlier.

Liberian Industrial Free Zone Authority (LIFZA):

This institution was established in 1975 for attracting foreign investment in export-oriented industries. The project is on 113 acre site. Firms which qualify for the Free Zone receive import duty and corporate income tax exemptions for five years with a maximum rate thereafter equal to 50 per cent of those of other firms. There is ample space for some 70 firms so there is little activity. However a number of enquiries are being handled by the management and with improvement in industrial climate and strengthened confidence of the foreign investors LIFZA can be expected to show encouraging results in the near future.

Monrovia Industrial Park (M.P.):

It was established in 1974 on an area of 1,100 acres located in Gardnersville. It is about 3.5 miles from the Free Port of Monrovia and around 6 miles from the centre of the city. The objectives of the Park are:

- (1) To assist potential industrialists with solving such initial problems as buying and preparing a site and securing essential utilities and services.
- (2) To offer Liberian entrepreneurs an opportunity to benefit from a variety of technical services.
- (3) To reduce cost of providing the utilities and infrastructure facilities.
- (4) To increase employment and income through the activities of the Park.



- (5) To accommodate large, medium and small enterprises and to provide facilities for an administration and operation centre, house workers, provide a traffic and transportation system and utilities and bonded warehouses.

So far 244.8 acres of land have been leased and another 43.6 acres allotment has been committed. There are 13 firms on the Park engaged in multifarious activities. These firms have incurred high costs on infrastructural development due to lack of sufficient funds from the Government to develop the area. In case the Industrial Park authorities could provide developed infrastructure facilities the occupancy could have been much better. The Government is contemplating extensive study to evaluate the scope for setting up the industrial estates at other growth poles in the country during the next five years.

The main expectations of the Government of Liberia from the programme of developing Industrial Free Zones, Industrial Parks and Industrial Estates are mainly

- Giving impetus to manufacturing industry;
- Creating large number of skilled and semi-skilled jobs;
- Developing exports to increase foreign exchange earnings;
- Promoting indigenous entrepreneurship and management skills;
- Providing avenues for investment to domestic sources of capital and attracting foreign investment; and
- Acting as effective development poles among other things, also for establishment of auxiliary enterprises and linkages among large, medium and small manufacturing concerns.

Value added by economic sector for Liberia, 1968-1977  
(Millions of US dollars<sup>a/</sup>, at constant 1975 prices)

Year	Agriculture	Mining and quarrying	Manufacturing	Utilities	Construction	Services	GDP	Population (in millions)
1968	46.7 (10.3)	208.4 (46.0)	17.3 (3.8)	4.9 (1.1)	26.0 (5.7)	149.7 (33.1)	453.0 (100.0)	1.46
1969	48.7 (10.2)	226.1 (47.5)	20.9 (4.4)	5.6 (1.2)	26.6 (5.6)	148.2 (31.1)	476.1 (100.0)	1.49
1970	59.1 (10.4)	268.5 (47.2)	27.7 (4.9)	7.1 (1.2)	32.8 (5.8)	173.7 (30.5)	569.0 (100.0)	1.52
1971	60.6 (10.6)	265.3 (46.5)	29.0 (5.1)	8.0 (1.4)	30.3 (5.3)	177.8 (31.1)	571.1 (100.0)	1.56
1972	64.8 (10.4)	293.6 (47.0)	32.6 (5.2)	9.3 (1.5)	33.1 (5.3)	192.1 (30.7)	625.5 (100.0)	1.59
1973	67.6 (10.8)	286.1 (45.9)	36.1 (5.8)	9.5 (1.5)	28.7 (4.6)	195.8 (31.4)	623.8 (100.0)	1.63
1974	66.6 (10.0)	299.3 (45.0)	45.7 (6.9)	10.0 (1.5)	35.9 (5.4)	207.6 (31.2)	665.1 (100.0)	1.67
1975	68.3 (11.2)	252.7 (41.5)	39.6 (6.5)	9.3 (1.5)	31.4 (5.2)	208.4 (34.2)	609.6 (100.0)	1.71
1976	74.4 (11.9)	232.8 (37.3)	47.4 (7.6)	11.8 (1.9)	38.9 (6.2)	218.9 (35.1)	624.1 (100.0)	1.75
1977	70.9 (11.3)	209.8 (33.5)	58.2 (9.3)	12.1 (1.9)	39.4 (6.3)	236.3 (37.7)	626.6 (100.0)	1.80

Source: Industrial Data Base, Regional and Country Studies Branch, UNIDO.

<sup>a/</sup> Figures in parentheses are percentages.

Value of exports, 1970-1978  
(in millions of US dollars)

Exports items	1970	1971	1972	1973	1974	1975	1976	1977	1978
Iron-ore	150.7	160.6	182.7	196.7	262.2	293.6	328.7	273.5	274.4
Lump	(53.8)	(40.3)	(46.7)	(54.0)	(68.8)	(56.0)	(58.5)	(23.6)	(14.4)
Fines	(40.8)	(54.8)	(53.4)	(52.2)	(74.8)	(86.8)	(100.5)	(115.8)	(127.2)
Pellets	(19.7)	(35.3)	(54.8)	(53.1)	(75.6)	(94.8)	(112.7)	(81.5)	(76.5)
Concentrates	(36.4)	(30.2)	(27.8)	(37.4)	(43.0)	(56.0)	(56.2)	(52.6)	(56.3)
Rubber	36.2	32.5	29.0	42.9	64.5	46.2	53.3	59.1	69.2
Latex	(18.7)	(16.1)	(15.7)	(15.8)	(28.9)	(20.1)	(21.7)	(24.3)	(31.9)
Crepe	(17.5)	(16.4)	(13.3)	(27.1)	(35.6)	(26.1)	(31.6)	(34.8)	(37.3)
Diamonds	27.9	28.2	31.7	49.3	29.9	18.4	16.6	21.4	30.3
Logs and lumber	5.8	8.0	8.2	16.6	17.6	12.8	32.4	25.9	54.9
Coffee	3.3	4.0	4.6	5.1	4.0	4.5	6.6	43.0	25.3
Cocoa	1.0	1.3	1.5	1.9	4.3	4.4	4.1	6.1	14.4
Palm products	2.0	2.2	1.5	2.6	8.5	3.2	2.7	3.8	3.6
Palm kernels	(2.0)	(2.2)	(0.4)	(0.2)	(0.1)	(-)	(-)	(-)	(-)
Palm kernel oil	(-)	(-)	(0.8)	(1.7)	(6.9)	(2.3)	(1.4)	(1.8)	(2.3)
Expeller cake	(-)	(-)	(0.3)	(0.6)	(1.2)	(0.5)	(0.7)	(0.6)	(0.7)
Palm oil	(-)	(-)	(-)	(0.1)	(0.3)	(0.4)	(0.6)	(1.4)	(0.6)
Sawn timber	0.1	0.1	-	-	-	1.8	2.2	1.4	-
Other domestic exports	3.1	2.7	4.5	3.4	3.6	3.6	4.5	4.2	5.4
Re-exports	5.8	7.0	6.1	5.5	5.6	5.9	6.0	7.0	8.8
Total exports, f.o.b.	235.9	246.6	269.8	324.0	400.0	394.4	457.1	447.4	486.3

Source: IBRD Report No. 2662-LBR, 28 December 1979

Value of imports, 1970-1978  
(in millions of US dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Food and live animals	21.4	24.4	25.5	30.2	38.4	38.6	41.9	56.8	66.9
Beverages and tobacco	3.2	4.5	3.8	4.1	4.7	6.2	7.3	10.3	11.7
Crude materials, inedible	1.8	1.7	1.7	1.6	2.1	3.0	4.8	4.8	4.4
Mineral fuels, lubricants, etc.	9.5	11.8	12.0	14.7	56.4	48.3	59.5	68.8	84.6
Animal and vegetable oils	0.7	0.9	1.1	1.2	2.4	1.0	1.8	2.1	2.9
Chemicals and related materials	9.7	11.6	9.9	12.8	18.5	22.0	24.5	29.6	31.1
Manufactured goods, by material	37.9	35.2	40.6	39.0	54.4	70.2	79.5	97.0	91.9
Machinery and transport equipment	50.1	54.2	63.4	68.8	85.4	115.7	152.1	156.5	156.6
Miscellaneous manufactured articles	12.7	15.4	18.3	18.6	23.4	22.0	24.4	34.0	26.7
Miscellaneous commodities and transactions, n.e.s.	2.7	2.6	2.4	2.4	2.8	4.1	3.4	3.4	4.0
Total imports, c.i.f.	149.7	162.4	178.7	193.5	288.4	331.2	399.2	463.5	480.4

Source: IBRD Report no.2662-LBR, 28 December 1979.

Balance of payments  
(in US\$ million)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u> <sup>1/</sup>
<u>Exports of goods &amp; NFS</u>	407.2	403.7	467.1	459.0	500.0
Goods	400.3	394.4	457.1	447.4	486.4
Non-factor services	6.9	9.3	10.0	10.6	13.7
<u>Imports of goods &amp; NFS</u>	-316.1	-354.9	-446.2	521.9	-544.6
Goods	-289.4	331.2	-399.2	-463.5	480.8
Non-factor services	-26.7	-23.7	-47.0	-58.4	-64.8
<u>Trade balance</u>	<u>110.9</u>	<u>63.2</u>	<u>57.9</u>	<u>-16.1</u>	<u>5.6</u>
<u>Resource balance</u>	<u>91.1</u>	<u>48.8</u>	<u>20.9</u>	<u>-62.9</u>	<u>-44.6</u>
<u>Factor service</u>					
Factor payments	-120.0	-122.9	-86.0	-80.0	-79.0
Workers' remittances	-22.0	-24.5	-25.0	-27.5	-32.5
Interest payments	-4.3	-4.9	-4.6	-7.8	-10.8
<u>Unrequited transfers</u>					
Grants to public sector	12.3	11.3	16.0	14.0	16.0
Grants to private sector	2.6	2.8	2.6	2.6	2.6
Maritime revenues	9.9	16.5	16.3	12.8	13.6
<u>Current account balance</u>	<u>-30.4</u>	<u>-77.4</u>	<u>-59.8</u>	<u>-148.8</u>	<u>-134.7</u>
Direct foreign investment		45.0	91.4	51.3	13.3
Government borrowing		18.0	32.6	57.5	76.8
Debt amortization		-15.8	-15.1	-19.9	-13.5
Errors and omissions		29.0	-11.1	51.1	30.0
<u>Capital account</u>	<u>32.7</u>	<u>76.2</u>	<u>97.8</u>	<u>140.0</u>	<u>106.6</u>
<u>Surplus/Deficit</u>	<u>2.3</u>	<u>-1.2</u>	<u>38.0</u>	<u>-8.8</u>	<u>-28.1</u>
<u>Financing</u>					
-Govt. with bank abroad	0.1	-0.1	0.7	-2.0	2.3
-Deposit money banks	1.4		-32.5	19.2	19.4
-Monetary authorities	1.0	1.3	-6.2	-8.4	6.4

<sup>1/</sup> Preliminary estimates

Source: IBRD Report No. 2662. LBR, December 28, 1979

Summary - External debt and debt servicing situation (US\$ M)

	1974	1975	1976	1977	1978
Total debt outstanding (including undisbursed)	211.3	276.2	348.4	399.5	656.6
Total debt outstanding (disbursed only)	152.0	169.3	201.2	215.2	341.5
- As percentage of monetary GDP	33.6	30.2	35.4	34.6	52.3
Debt servicing obligation	19.3	20.7	20.1	24.5	30.7
- As percentage of monetary GDP	4.2	3.7	3.5	3.9	4.8
- As percentage of govt. revenues	17.8	16.5	13.4	14.7	16.1
- As percentage of exports of goods and NFS	4.8	5.2	4.4	5.1	6.7

Source: IBRD Report 2662. LBR, December 28, 1979

GENERAL AND INDUSTRIAL REVIEW OF SIERRA LEONEGeneral:

Sierra Leone is situated on the West Coast of Africa. It has the Peoples Revolutionary Republic of Guinea on the north west border, Liberia on the south east and by the Atlantic Ocean on the south west. It has a coast line of about 300 miles. Its population\* was estimated at 3.186 million in 1980, 3.020 million in 1979, 2.961 million in 1978 and 2.903 million in 1977. Its area is 27,925 square miles. Accordingly, the density of population has increased from 104 persons per square mile in 1977 to 114 persons in 1980. The total labour force as per 1974 census was 1.11 million. At that time 1.01 million\*\* persons were employed of whom 0.732 million were in agriculture, 0.021 million in mining, 0.048 million in manufacturing, 0.018 million in construction, 0.002 million in utilities, 0.099 million in commerce, 0.027 million in transport and 0.063 million in services. This included children of age 10 and 11 years. The number of persons registered as unemployed\*\*\* with Employment Exchange in May 1981 was 14,382 as against 14,905 in May 1980. The number of persons seeking non-maritime employment was 2,845 in May 1981 and 4,106 in May 1980. The average per capital income at current prices was Le 255.7 in 1980, Le 228.3 in 1979, Le 209.7 in 1978 and Le 179.0 in 1977. The current rate of exchange is US\$ 1 = Le 1.20.

Economic Performance:

The total Gross National Product (GNP) at factor cost was Le 840.5 million in 1980, Le 733.3 million in 1979, Le 656.0 million in 1978 and Le 548.8 million in 1977. The gross fixed capital formation was Le 140 million in 1980, Le 106.9 million 1979, Le 86.9 million in 1978 and Le 76.8 million in 1977. The Gross Domestic Product\*\*\*\* at factor cost at 1972-73 prices was Le 395.8 million in 1978-79, Le 379.1 million in 1977-78, Le 378.3 million in 1976-77, Le 368.6 million in 1975-76 and Le 376.3 million in 1974-75. The percentage share of "manufacturing and handicrafts" was 6.8 in 1978-79, 7.0 in 1977-78, 6.7 in 1976-77, 7.1 in 1975-76 and 6.6 in 1974-75. Throughout the period agriculture, forestry, hunting and fishing group had the maximum share (around one third) and was followed by either wholesale retail trade, hotels and restaurants group or by mining and quarrying. Recently the share of mining and quarrying was lower than that of "producer of government services". More information is given in Appendix A. The consumer price index\*\*\*\*\* of Freetown (1961 = 100) stood at 366.4 in 1980, 329.8 in 1979, 272 in 1978 and 252.8 in 1977. The wholesale price index\*\*\*\*\* of all commodities (1975 = 100) was 251 in 1980, 205.1 in 1979, 169.3 in 1978 and 144.7 in 1977.

---

\* Source Sierra Leone in Figures - 1981 Edition Printed by Bank of Sierra Leone

\*\* Source: The Investor's Guide to the Mano River Union -- Industrial Development Unit

\*\*\* Source: Economic Trends - April-June 1981 published by Bank of S.L.

\*\*\*\* Source: Economic Review July-December 1980 published by Bank of S.L.

\*\*\*\*\* Source: Sierra Leone in Figures 1981 Edition Printed by Bank of S.L.

External Trade and Balance of Payment:

The total exports\* (fob) including re-exports amounted to Le 228.84 million in 1980, Le 204.56 million in 1979, Le 175.14 million in 1978 and Le 140.25 million in 1977. Of these minerals namely diamonds, bauxite and rutile accounted for Le 153.70 million in 1980, Le 117.28 million in 1979, Le 111.49 million in 1978 and Le 69.97 million in 1977. Among the minerals, it is the diamonds which dominated the exports having a share of Le 120.07 million in 1980, Le 107.58 million in 1979, Le 106.17 million in 1978 and Le 62.08 million in 1977. The agriculture produce which includes palm kernels, coffee, cocoa, paissava, ginger etc. were exported to the tune of Le 70.59 million in 1980, Le 83.97 million in 1979, Le 56.67 million in 1978 and Le 55.76 million in 1977. Coffee and cocoa dominated the contribution in such exports. The c.i.f. value of imports during the corresponding period was Le 470.00 million in 1980, Le 333.92 million in 1979, Le 290.84 in 1978 and Le 206.23 in 1977. By and large during the period machinery and transport equipment have dominated the imports followed by manufactured goods, mineral, fuel and lubricant as well as by food items. The imports also included beverages, tobacco, animal and vegetable oil, chemicals, miscellaneous manufactured articles and other crude materials.

The visible balance of trade has been negative for long number of years. The deficit amounted to Le 141.16 million in 1980, Le 129.36 in 1979, Le 115.71 million in 1978 and Le 65.98 million in 1977. The overall balance of payment\* too has been suffering all these year. from deficit which was Le 85.22 in 1979, Le 27.97 million in 1978 and Le 9.19 million in 1977. The total external debt\*\* (debt disbursed and outstanding) increased to Le 397 million by end of 1980 whereas the corresponding figure for end of 1979 was Le 331 million. At the end of 1980 external debt due to international organizations was Le 95.8 million, foreign governments Le 142.9 million, suppliers' credit/contract finance Le 157.6 million and private foreign banks Le 0.7 million.

Transport and Communications:

Sierra Leone has no railways. The formerly existing railway was closed down in 1975. Land connections with neighbouring countries exist. Roads are in need of upgrading. A project is under way to build a highway connecting Sierra Leone and Liberia by bridge over the Mano River. Almost all major roads are being upgraded. The programme has been taken up for maintenance work of 4400 miles of roads, 200 miles of roads will be re-surfaced and 370 miles of good roads rehabilitated. Modern highways built in the provinces include: Lunsar-Makeni, Makeni-Matotoka, Bo-Kenema, Taiama-Bo and Freetown-Waterloo. There is still ample scope for improving and extending the road network. In 1980 licensed vehicles included 16,521 cars, 510 buses, 3441 light vans, 1035 lorries, 2893 motor cycles and 181 other vehicles.

---

\* Source: Sierra Leone in Figures 1981 Edition Printed by Bank of S.L.

\*\* Source: Economic Review - July - December 1980 published by Bank of S.L.



Lungi airport is the only international airport and it is served by European and African airlines. Sierra Leone Airways operates domestic flights to Bo, Kenema, Yengema, Bontne, Gbamatoke and Kabala and international flight to Conakry. Freetown is reported to have one of the finest natural harbours in the world. The port is well provided with modern facilities for cargo handling and anchorages for vessels. It is well served by European, American and Asian shipping lines. The number of vessels discharged in 1980 was 454, tonnage discharged was 446.714 tons, vessels loaded were 194 and tonnage loaded was 83,068 tons. Sierra Leone has no shipping income as she has no international shipping line.

There are 12 automatic telephone exchanges with a total installed capacity of 11,600 lines. These are connected by microwave radio links spanning a distance of 416 miles. Sierra Leone has acquired an earth satellite station and is used for international telephone, telex, telegraph, data and facsimile communication messages on 24 hour basis. Private circuits have been leased to government, banks, airlines and other commercial organizations. There is ample scope for improvement in the communication system, expansion of the earth satellite station has been planned. The radio and television stations are there.

#### Energy:

There are 22 electricity stations\* having installed capacity in 1980 and 58.000 KW and the units generated were 146 million KWh and units sold were 101 million KWh which earned revenue of Le 11 million. The distribution is done at 50 Hz, 230 volts and 415 volts. For domestic supply there is a flat rate of Le 0.15 per KWh and for non-domestic high and low tension supplies the rates differ from Le 0.085 per KWh to Le 0.12 per KWh. There are sometimes problems about supply of electricity. The generating sets need renovation. In the long run it is expected that the Bumbuna hydro-electric project along with other projects planned will meet the future demand.

#### Agriculture:

Agriculture statistical survey last conducted was in 1970-71. It showed 13-24\*\* million acres of arable land of which 1.30 million acres were under cultivation and 0.79 million acres under forests. Since then some more land has been brought under cultivation. However, still there is vast scope for expansion, particularly when vast sources of water for irrigation are there. In recent years large-scale mechanised farms have been established either to supply industrial projects like sugar and palm oil mills or to undertake new commercial crops like rubber and coconuts.

---

\* Source: Sierra Leone in Figures - 1981 Edition printed by Bank of S.I.

\*\* Source: Industrial Review Part II - Developing resource-based industries in S.L. UNIDO document No. DP/ID/SER.A/32 dated 22.1.1981

The production of major crops from 1974 - 75 to 1978-79 is given in Appendix B which show marginal increase in production. The level of production in 1978-79 of rice was 0.631 million tons, palm oil 0.048 million tons, palm kernels 0.037 million tons, coffee 0.026 million tons, ginger 0.012 million tons, cocoa and kola nuts 0.009 million tons each and piassava 0.004 million tons. Of these coffee, cocoa, palm fruit and kernels, piassava fibre and ginger are mainly exported (please also see Appendix C for export figures). The anticipated production of major crops as per rough estimates provided by the Ministry of Planning from 1980-81 to 1984-85 is given in Appendix D. It shows only marginal increase.

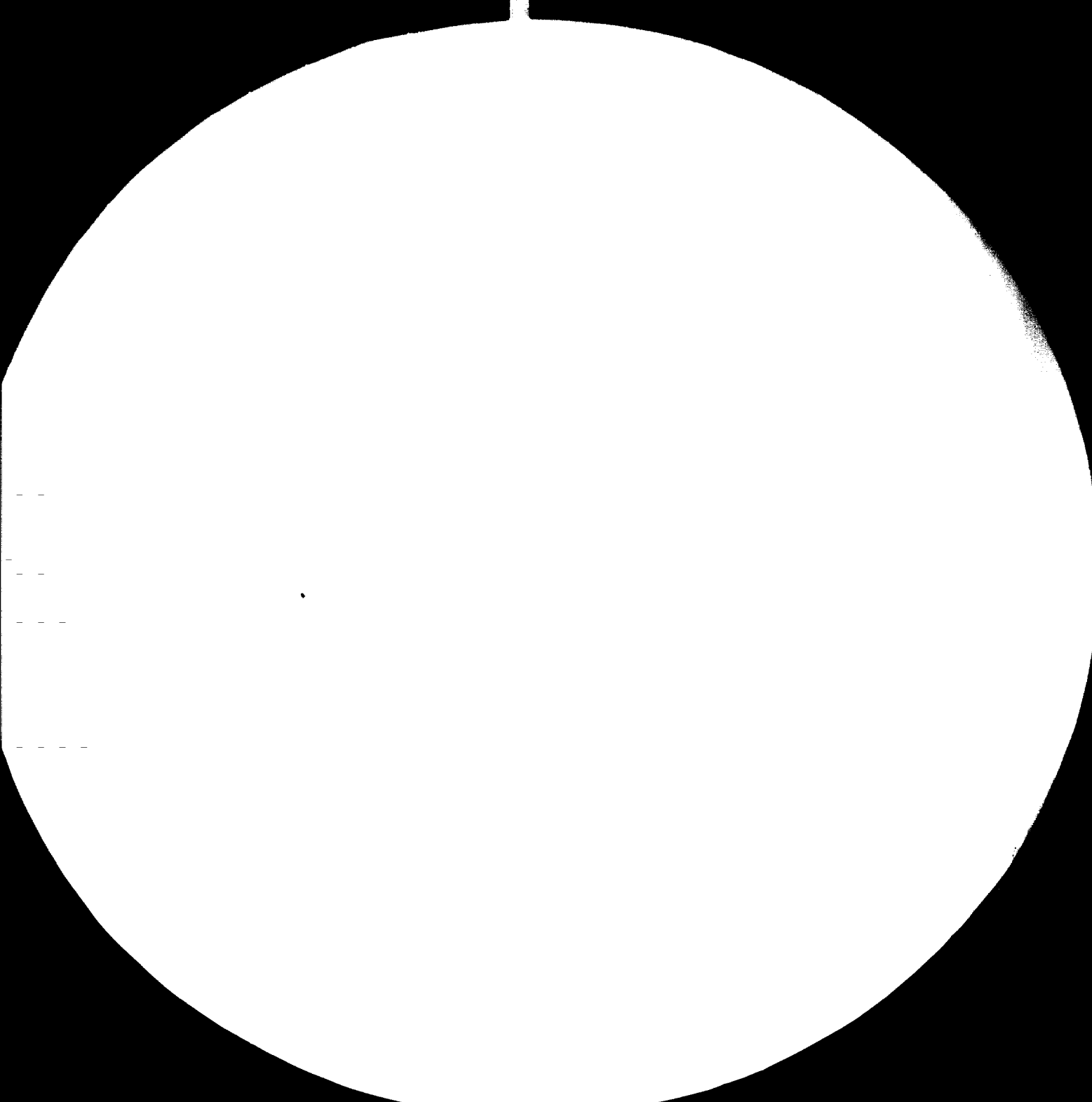
Cassava, groundnuts, sweet potatoes, oranges, bananas and plantains produced in the country are almost totally consumed. The heavy cost of clearing the bushes is the major handicap in extension of agriculture. The soil and climate is suitable for a large expansion and cultivation of crops based on which a number of industrial ventures can be promoted and for quite a few of them even feasibility studies have been conducted. These include fruit products, sugar, distillery, rubber products, urena lobata fibre and cotton-based products including textiles.

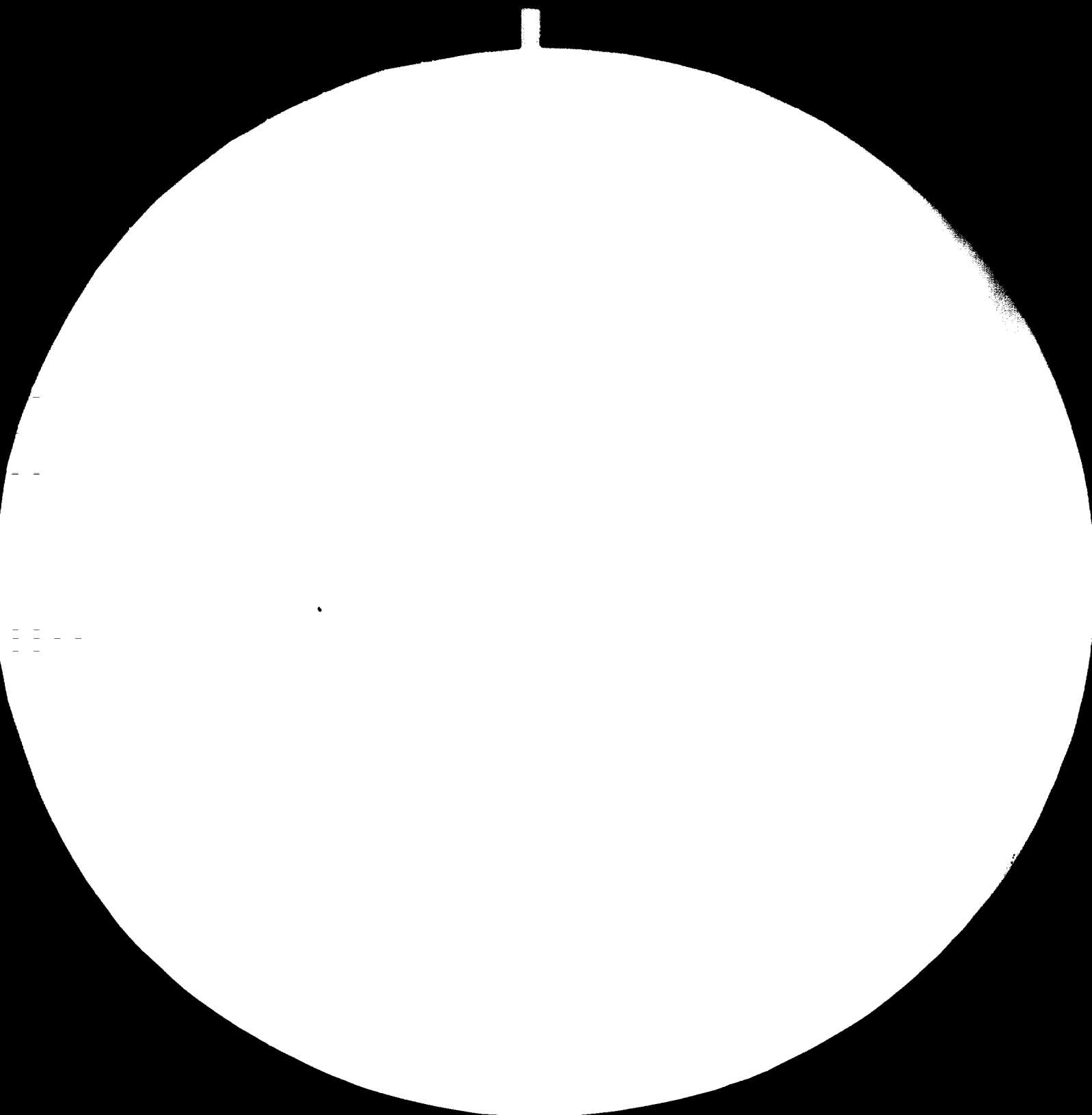
#### Forestry:

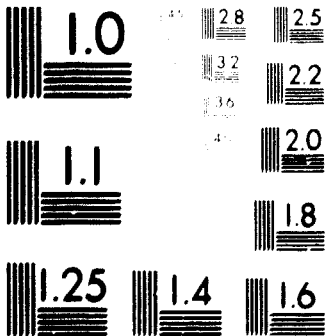
The forest resources as assessed\* in 1979 show that 3,743 square kilometers were under close high forests and 2,645 square kilometers were under secondary forests. The existing forest resources covered 704,255 acres and protected forest resources 189,363 acres and additional acreage proposed to be brought under forest reserves was 83,897. The standing volume of national forests was estimated at 3.52 million cubic meters and that of plantations at 0.18 million cubic meters. The annual increase in the standing volume is estimated at 0.06 million cubic meters. 95 per cent of the extracted wood is used as fuel, four per cent for construction (round wood) and the remaining one per cent as sawn timber and exported logs. There is no definite information available about minor forest products. The primary industries to be based on forests are timber sawing (expansion) wood-based panels, pulp and charcoal (expansion). The panels require plywood, fibre board and particle board. Prospects for plywood factory have been rated high and a feasibility report has been prepared which includes potentials for block board and laminated board. The feasibility of pulp and paper plant has also been established. The secondary industries which can be promoted include furniture, wood-based handicrafts, construction materials etc.

---

\* Source: Industrial Review Part II - Developing Resource-based Industries in Sierra Leone. UNIDO document No. DP/ID/SER.A/321 dated 22 January 1981







MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A



Fishery:

In spite of having enormous fishery resources Sierra Leone is still a net importer of fish amounting to about Le 7 million. The consumption of fish is estimated at 10.000 tons by 1990 and the annual potentials of edible fish are placed at least at 150.000 tons per annum. The development of fishery opens up industrial opportunities for boat building and repair and service facilities for fishing vessels, cold storages, fish canning, fish meal, fish oil etc.

Livestock:

The total consumption of meat in 1979 was 11,265 tons as against local production of 7,323 tons. It is possible to increase the growth rate of the cattle population by making optimum use of pastures and supplementary pasture resources by fodder crops and animal feed. There is a need for re-organization of livestock industry on modern lines. It is also desirable to review the economies of recovering hides and skins and converting them into leather and leather products. Once this is re-organized there will be ample scope for promoting a number of industrial activities. There is also need for increasing the population of milk cattle.

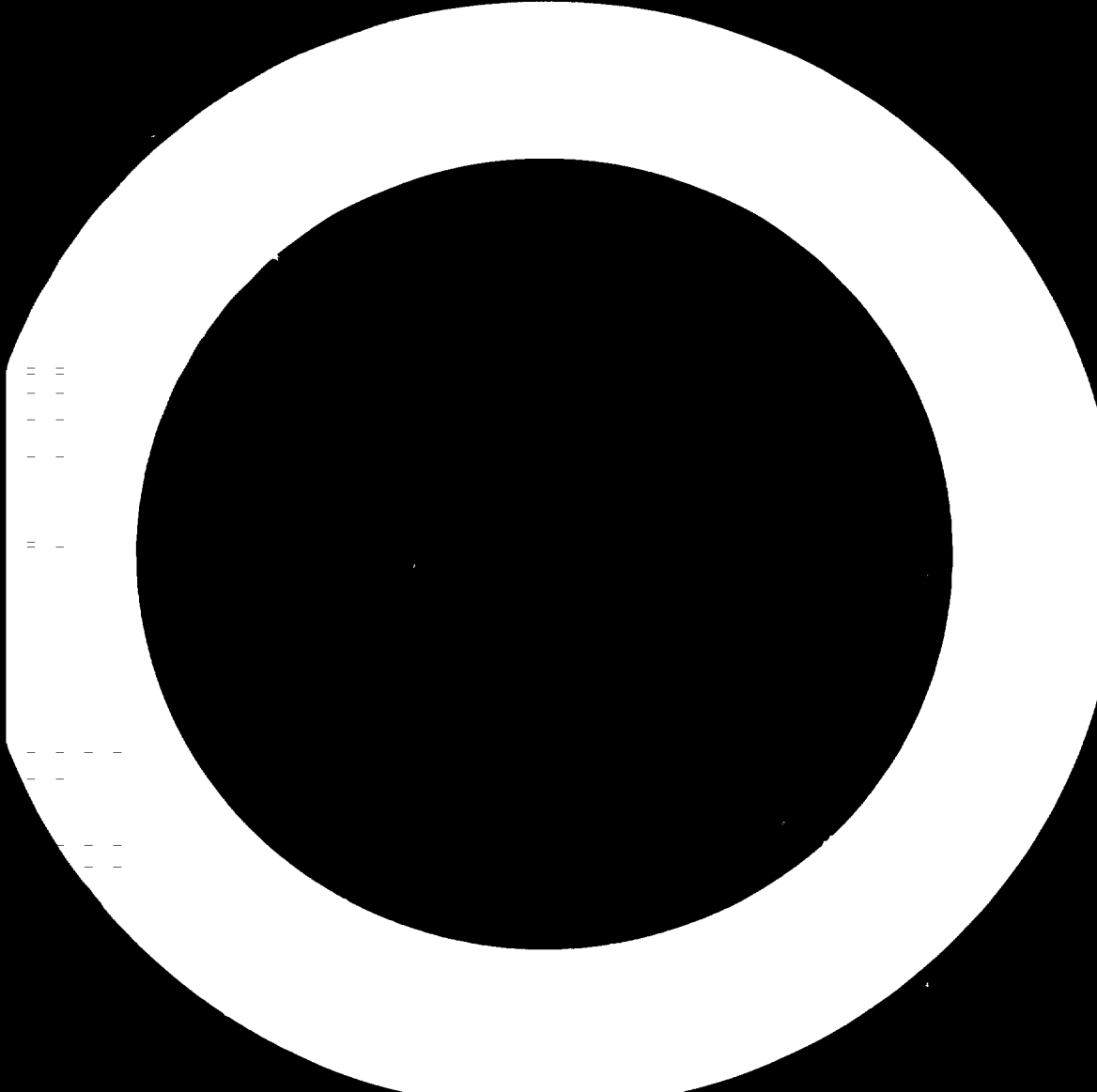
Minerals:

The export of minerals has been increasing as can be observed from Table I: (figures in Le '000)

<u>Product/Years</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
All minerals (total)	69,966	111,489	117,281	153,501
Diamonds	62,080	106,168	107,583	120,072
Bauxite	7,886	5,321	9,698	20,921
Rutile	-	-	-	12,708

Source: Sierra Leone in Figures 1981 Printed by Bank of S.L.

The mining sector is the main source of export earnings. As per the information collected from the Ministry of Planning the implementation rates at constant prices for the first five year plan period 1974-75 to 1978-79 were: gross output 56.5 per cent, value added 50.9 per cent, investment made 62.2 per cent and export level achieved 60.8 per cent. Low performance is attributed to (i) closure of Marampa Iron Ore mines in October 1975, (ii) decline in mined volume of diamonds, (iii) non implementation of Port Loko Bauxite project as per projections, (iv) delayed development of rutile mine and (v) delay in expansion of bauxite mining. Unless deeper gravel mining is undertaken sharp fall in availability of diamond during the next plan period is anticipated.



- (3) Lack of local entrepreneurship and non-introduction of suitable measures to motivate local people has been also the cause of investible funds having been unattracted to industry. Suitable motivational programmes will have to be introduced and industrial information built up to provide proper direction. Further effective system for monitoring and carrying out concurrent evaluation of the efforts and programmes is highly desirable.
- (4) Due to lack of effective development and import policies enough support to the new industrial enterprises to come out of teething problems has not been provided. Their failures or limited success discouraged others to invest in industry.
- (5) There is ample scope to improve infrastructure and institutional support particularly for achieving regional balanced industrial growth.
- (6) It is recognised that the informal and small-scale industrial sector will form the seed-bed for future industrial development. The success of this sector largely depends upon efficient management and effective technical guidance and for that well organized industrial extension service will have to be introduced.
- (7) An industrial base operates as a spring-board for growth and development only if it is balanced. In Sierra Leone the emphasis has been on the creation of import substitution industries to the neglect of export-oriented and those based on local raw materials. It is also important to identify the level of technology which is in tune with the requirements of the country and employ the same for industrial development.

Industrial Sector - Performance and Potentials:

The National Accounts compiled by the Central Statistical Organisation do not divulge the sample chosen and the universe identified of Sierra Leone industry. These however point out that there had been negligible growth in certain sectors like textiles, leather, metal products and processed food products and that industries based on forestry, printing, chemical and petroleum refinery have a positive growth.

The modern sector of industry has been identified to have 180 industrial enterprises. Its break up by groups of industry along with employment is given in Table I following:



TABLE I - Establishments and Employment by Industrial Groups\*

<u>Industry Group</u>	<u>Number of Units</u>	<u>Number of Employees</u>
Food Beverages and Tobacco	59	3012
Repair and Service Workshops	32	2721
Chemicals, Petroleum and Mineral Products	16	1037
Paper Products, Printing and Publishing	16	1017
Wood, Wood products and Furniture	13	1462
Plastic, Rubber and Allied Products	12	419
Light Engineering and Metal Products	5	378
Textiles and Textile Products	3	209
Miscellaneous Industries	8	180
Total	180	11027

Of these 44 units are owned by the Public Sector and the rest are in the Private Sector.

There is no unified pattern\* of public sector ownership. These are controlled by five statutory bodies; various ministries like Agriculture, Natural Resources, Social Affairs, Information, Public Works and Transport; non-commercial government organisations like University etc. There is hardly any industry in Public sector which does not have foreign aid or investment and most of these have foreign partner's management. The private sector enterprises are mostly owned by Lebanese and Indians. The estimated total investment of the 180 enterprises is over Le 111 million. A number of enterprises are not able to appropriately utilise their installed capacity due to limited size of the domestic market, inadequate protection of indigenous industry from imported stuff, absence of measures to boost up exports of manufactured goods and problems of foreign exchange. The estimated value of output in 1978 was around Le 186 million. C and F cost of the materials imported by industry is equivalent to 58 per cent of its gross output value.

The orbit of production includes packaging (cardboard and tin), fish processing, wheat flour mill, rice mills, edible oils, baby food, alcoholic beverages, distillery, soft drinks, sugar, cigarettes, repair and maintenance shops, petroleum refinery, cosmetics, aromatics and insecticides, soap, candles, safety matches, paints, pharmaceuticals, cement grinding, clay bricks, plastic foot-wear, polyurethane foam, suitcases, printing and publishing, saw mills, furniture (wooden), National Workshop, ready-made garments, knitted wears, mirrors, industrial gasses etc. Production figures of selected industries during 1977 to 1980 are given in Table II.

\* Industrial Review of Sierra Leone - Part I UNDP/UNIDO Project  
DP/SIL/78/002 September 1979

TABLE II - Industrial Production\* - Selected Products

<u>Product</u>	<u>Unit</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Cigarettes	million pieces	1,504	1,599	1,539	1,562
Beer and stout	'000 litres	10,756	12,271	6,514	11,719
Paint	'000 litres	323	323	507	619
Plastic foot-wear	'000 pairs	234	133	n.a.	n.a.
Salt	'000 tons	7,943	4,853	7,092	6,976
Nails	tons	494	673	625	489

(Note: n.a. stands for not available)

During the first three months of 1981 the production\*\* of cigarettes was 366 million pieces, beer and stout 2.6 million litres, acetylene 212 thousand cubic feet, oxygen 503 thousand cubic feet, carbon dioxide 99 thousand pounds, plastic foot-wear 210 thousand pairs, nails 254 tons, paints 74 thousand imperial gallons, motor spirit 17 million litres, kerosine 5.5 million litres and salt 1726 tons. The overall index of industrial production (1977 = 100) stood at 116.9 in 1978 and 138.4 in 1979.

The small-scale industries sub-sector in Sierra Leone consists of 300 to 400 units\*\*\* employing around 5,000 workers being 0.5 per cent of the total labour force. This is excluding the many artisanal establishments employing less than six workers. The small-scale industrial sector is heavily concentrated in the Freetown, area. The majority of these industries are engaged in food products (bakeries, rice milling), textiles (tailoring) and wood processing (furniture). The almost total absence of light metal industries in this sub-sector is striking. The sub-sector suffers from all the difficulties usually associated with it in other developing countries at its stage of development, namely lack of entrepreneurship, managerial and technical know-how, and limited or no access to sources of finance at reasonable cost. The present industrial incentive system also favours large-scale capital intensive production. The creation of a number of large-scale enterprises over a number of years has not resulted in any linkage effects with small industries.

The informal sector\*\*\*\* includes units employing less than six persons. It plays a prominent role in the Sierra Leonean economy. During 1974, there were 39577 persons employed in this sub-sector in the manufacturing activities like fish processing, charcoal making, palmoil, baking, spinning, weaving, gara dyeing, mat making, tailoring,

\* Sierra Leone in Figures - Bank of S.L. Pamphlet edition 1981

\*\* Economic Trends April - June 1981, Bank of S.L. Publication

\*\*\* Sierra Leone Promotion of Small-scale Enterprises Phase II - European Development Fund Publication September 1981

\*\*\*\* Ensuring Equitable Growth S.L. - Report of JASPA Employment Advisory Mission, ILO 1981

shoe making, carving, carpentry, gold smithing, blacksmithing, vehicle repairs etc. Almost 90 per cent of these entrepreneurs worked for more than eight hours a day. Family labour dominates in most of them. Apprentices play a significant role in carpentry and blacksmithing and an important role in tailoring and goldsmithing. Hired labour is employed in gara dyeing particularly. The mean initial investment required in most of such activities has been less than Le 100. The mean annual value added varies widely being Le 2,288 in bakery and Le 754 in blacksmithing.

The Government is aware of the weaknesses of the industrial sector. The Development of Industries Act is being legislated which provides for incentives like:

- (a) guarantee against nationalisation;
- (b) preferential treatment with respect to granting of import licences;
- (c) total exemption from customs duty on capital equipment, raw materials and other approved intermediate goods;
- (d) provision of capital allowance;
- (e) relief from surtax and income tax for five years;
- (f) eligibility for export credit guarantee scheme and
- (g) export tariff exemption under custom Union arrangements.

The main characteristics\* of the Sierra Leonean industry have been assessed as:

- (a) industry is market oriented and commodity based,
- (b) industrial enterprises have a family oriented ownership base,
- (c) the industrial base lacks balance and equilibrium,
- (d) some industries are based on an excessive use of capital intensive technology,
- (e) installed industrial capacity is under-utilized,
- (f) industry tends to function on high production costs,
- (g) exports are under-developed, and
- (h) imports are over-developed.

In regard to future industrial development, programmes are being worked out. The intention is to formulate and implement a well thought out programme so as to ensure maximum feasible support to industry and to see the scarce capital resources employed therein fully fructify. Some of the propositions under consideration are manufacture of glass containers, sacks from urena lobata, fish processing, meat and milk production and other activities based on livestock, rice milling, oil extraction, including use of solvent extraction process, salt-based industries, sugar industry and other connected activities, building, hardware, electrical accessories, clay-based products, footwear, forest-based industries, light engineering and metal-based products, foundry and forging, plastic goods, rubber goods, paper conversion products etc.

---

\* Industry its characteristics, problems and prospects  
UNIDO report DP/ID/SER.A/319 January 1981

Institutional and Policy Support:

The long-term objectives of industrial development\* are:

- (a) initiating and sustaining a process of rapid industrial growth,
- (b) mobilising domestic and foreign resources and technology for industrial development,
- (c) generating substantial employment opportunities,
- (d) establishing backward linkage effect towards raw material development and local processing, and
- (e) developing entrepreneurial, managerial and labour skills.

The Ministry of Industry and Trade is in charge of the industrial development programmes. The Industry Department has three Divisions for Planning, Operations and Small-scale Industries and is assisted by a UNIDO project. This re-organization of the Department is part of the plan formulated earlier, which is given in Appendix E. Export Promotion Council is another support organ. The Ministry is conscious of the need for developing an institutional structure to manage the investment of public funds in industry and to ensure the performance efficiency.

The Central Bank is known as the Bank of Sierra Leone. It operates Credit Guarantee Scheme which in fact has not effectively provided credit facilities to industry in general and small industry in particular. It also has a loaning scheme under which 75 per cent of the cost of a project can be financed. There is urgent need of ensuring its effective operation. Besides there is an Export Credit Guarantee scheme. There is a National Development Bank and Sierra Leone Co-operative Bank. In addition four commercial banks are there, namely Barclays Bank, Standard Bank, Bank of Credit and Commerce and Bank for Trade and Industry (not fully established). Rural banking system is being developed. These banks are quite reluctant particularly to finance small-scale enterprises. There are Trade Unions which also cover industrial sector.

Industrial Estates and Areas:

There is no industrial estate in Sierra Leone. However, there is a Wellington Industrial Zone on the outskirts of Freetown. It accommodates a number of enterprises engaged in activities like cigarettes, beer and stout, suitcases and plastic goods, paints, shoes and rubber-based products, tomato paste, knitting mill etc. More or less similar type of demarcation of area has been done in Kissy, Calaba Town and Allen Town in the Western Area of the country. However, industrial development is not directed to these areas. The government is keen to make use of the concept of industrial estates and areas for promoting industry fast.

---

\* Draft chapter on the Manufacturing Industry - National Development Plan 1981-82 to 1985-86, October 1981

UNDP/UNIDO sponsored a mission for conducting a pre-feasibility study for promoting an industrial free zone in Sierra Leone. The report was submitted in July 1981. The mission examined the proposition in the light of experience of other free zones and in the light of the existing economic structure, physical infrastructural and administrative bottlenecks and the underlying industrial potentials of the country as determined by the existing and proposed legislation on incentives and regional economic development. The mission came to the conclusion that the present time was not the right time for the establishment of an industrial free zone in Sierra Leone. The report further examined the possibility of developing what it calls the "hybrid" zone.

The "hybrid" zone considered is of two types, namely an industrial free zone which is not just limited to importing raw materials and exporting finished products but where encouragement is provided to processing domestic raw materials. The other proposal mentions about developing a properly organised industrial estate where industrial free zone concessions and operating systems apply on an individual basis. The mission has favoured the second alternative and has recommended two alternative locations, namely Pepel and Grafton and has shown preference for the former. It proposes development of 30 acres of land and has estimated an expenditure in the form of foreign exchange amounting to US\$ 27.0 to 28.5 million and in local currency to the extent of Le 12.3 million. Government has yet to take a view on the recommendation.

Sierra Leone: Distribution of GDP by type of economic activity at 1972/73 prices:  
(Percentage)

Economic activity	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	Average
Agriculture, forestry and fisheries	30.4	29.3	29.6	31.9	32.6	33.2	34.2	31.6
Mining and quarrying	17.8	16.1	16.4	13.6	11.2	6.9	8.4	12.9
Wholesale and retail trade	13.9	14.5	13.6	12.2	12.4	14.2	13.0	13.4
Transport and communications	10.8	11.5	11.5	11.0	10.0	11.2	12.2	11.3
Finance and insurance	8.3	8.6	8.9	9.0	8.7	9.3	8.8	8.8
Manufacturing and handicrafts	6.0	6.3	6.6	7.1	6.7	7.0	6.8	6.6
Construction	3.2	3.8	3.3	3.4	3.5	3.7	3.7	3.5
Electricity and water supply	0.4	0.4	0.4	0.3	0.4	0.5	0.5	0.4
Miscellaneous	<u>1.2</u>	<u>1.5</u>	<u>1.7</u>	<u>1.5</u>	<u>1.0</u>	<u>1.0</u>	<u>1.3</u>	<u>1.3</u>
Subtotal	92.3	91.8	91.5	90.4	88.8	88.2	89.5	90.3
Government services (public administration and defence)	7.3	7.8	8.1	9.0	10.8	11.3	10.0	9.2
Private services	<u>0.4</u>	<u>0.4</u>	<u>0.4</u>	<u>0.4</u>	<u>0.5</u>	<u>0.4</u>	<u>0.5</u>	<u>0.5</u>
Total GDP at 1972/73 prices	100	100	100	100	100	100	100	100

Source: Central Statistics Office, Freetown.

ANNEX V Appendix B

PRODUCTION OF MAJOR AGRICULTURE CROPS  
(SIERRA LEONE)

(Figures in 1000 Tons)

C R O P	1974-75	1975-76	1976-77	1977-78	1978-79	AVERAGE GROWTH OR DECLINE (-) PER YEAR (%)
Rice	518.7	570.6	610.5	630.6	630.6	4.3
Coffee	21.0	22.0	22.0	22.0	26.0	4.7
Cocoa	7.5	8.0	8.5	8.5	9.0	4.0
Palm Oil	38.4	42.4	44.5	40.0	48.0	5.0
Ginger	10.3	10.5	10.7	10.7	12.0	3.3
Benniseed	0.9	0.9	1.0	1.0	1.0	2.2
Kola Nuts	5.3	5.3	6.7	8.9	8.9	13.5
Palm Kernels	48.0	53.0	38.2	35.0	37.1	-4.5
Piassava	4.1	3.0	3.2	3.9	3.9	-0.9

SOURCE: Central Statistics Office - Statistical Digest

EXPORT OF AGRICULTURE PRODUCE  
(SIERRA LEONE)

(Figures in Le 000)

PRODUCE	1977	1978	1979	1980	1981
Palm Kernels	723	932	4,270	237	
Coffee	35,083	19,085	36,973	37,775	
Cocoa	18,310	23,098	31,347	23,860	
Piassava	512	1,039	846	815	
Ginger	772	1,322	1,932	1,122	
Others	10,356	11,193	8,602	6,779	
<b>T O T A L</b>	<b>65,756</b>	<b>56,669</b>	<b>83,970</b>	<b>70,588</b>	<b>-</b>

SOURCE: Sierra Leone in Figures - Bank of Sierra Leone Pamphlet - Edition, 1981.



NAF ESTIMATED NATIONAL PRODUCTION OF MAJOR CROPS (Metric Tons) - SIERRA LEONE

CROPS	Present		1980/81		1981/82		1982/83		1983/84		1984/85	
	Production 1979/80		Acres	Production	Acres	Production	Acres	Production	Acres	Production	Acres	Production
	Acres	Production										
Swampland Rice	306.000	184.000	318.000	191.000	331.000	199.000	344.000	297.000	359.000	215.000	372.000	294.000
Upland Rice 2/	697.000	349.000	707.000	354.000	718.000	359.000	729.000	364.000	740.000	370.000	751.000	376.000
Cassava	47.600	95.000	48.000	96.500	49.000	98.300	49.700	99.500	50.500	101.000	51.200	102.500
Nai'pe	30.200	12.100	30.800	12.200	31.400	12.400	32.000	12.600	32.700	18.200	42.500	18.500
Groundnuts	39.400	15.000	40.000	17.400	40.600	17.700	41.200	17.900	41.900	7.800	17.400	7.900
Sorghum	16.200	7.300	16.400	7.400	16.600	7.500	16.900	7.600	17.100	21.200	21.200	22.500
Sweet Potatoes	19.700	20.900	20.000	21.200	20.300	21.500	20.600	21.800	20.900	8.400	14.900	18.550
Guinea Corn	13.900	8.000	14.100	8.100	14.300	8.200	14.500	8.300	14.700	15.400	13.300	15.700
Cocoa	127.000 (3/)	14.200	128.300	14.500	130.000	14.800	130.100	15.100	130.200	23.500	214.400	24.000
Coffee	194.000	22.000	198.000	22.100	202.000	22.500	206.000	23.000	210.200	85.000	-	86.000
Palm Kernel	- (5/)	80.000	-	81.000	-	82.000	-	84.000	-	47.000	-	47.500
Palm Oil	- (6/)	45.000	-	45.500	-	46.000	-	46.500	-	-	-	-

1/ 1970/71 Ag. Statistical survey and an average growth rate of 4% (1970/71 - 79/80) and 5% (1980/81 - 84/85)  
1970/71 1.5% 1970/71 - 84/85 (Converted into pure stand equivalent, factor 1.43)

Total Paddy Production is estimated at 290,000 MT, which is equivalent to 290,000 MT available milled rice  
15% Provision for seed and post-harvest losses, and 65% miller rate.

3/ 1% Growth rate 1970/71 - 1979/80 and 2% growth rate 1980/81 - 1984/85 - IDA and SLPMB programme

5/ Maximum SLPMB purchases and provision for local consumption and 1% growth rate 1980/81 - 1984/85

6/ FAO estimate. 1% growth rate 1980/81 - 1984/85

ADMINISTRATIVE SET-UP FOR INDUSTRIAL DEVELOPMENT AFTER RE-ORGANISATION OF THE  
MINISTRY OF TRADE AND INDUSTRY

PERMANENT SECRETARY

DIRECTOR OF INDUSTRIES

DEPUTY DIRECTOR  
INDUSTRIAL PLANNING

Asst. Director  
Industrial Planning

- Industrial Policy + Strategy
- Feasibility Studies
- Project Development
- Evaluation of feasibility studies + projects received for approval
- Formulation of annual plans and development budgets

Asst. Director  
Surveys Statistics

- Planning + undertakings
  - survey of existing industry
  - Area potential surveys
  - resource potential
  - Surveys
  - Market surveys
  - Collection + tabulation of industrial statistics

DEPUTY DIRECTOR  
INDUSTRIAL OPERATIONS

Asst. Director  
Operations

- Factory registration
- Industrial licensing
- Performance evaluation of existing industry

Asst. Director  
Development

- Expansion of existing units
- Capacity utilisation
- Export of industrial products
- Tariff structure review

DEPUTY DIRECTOR  
SMALL INDUSTRIES

Asst. Director  
Marketing

- Handicraft Exerium
- Industrial Fairs
- Market Research for new projects
- Formulation of market development programmes

Asst. Director  
Design + Quality Control

- Design production and Utiliation
- Quality Control

Asst. Director  
Finance

Asst. Director  
Production + Technology

- Identification of technology
- Training in production management
- Training in skills
- Removal of production bottlenecks

## INDUSTRIAL ESTATES AND INDUSTRIALIZATION

### Background:

Planned industrial estates and industrial areas as understood presently are the outgrowth of economic depression of the 1930s and the Second World War. During that period the establishment of this institution was influenced by a number of objectives and policies among which profitability was only remotely important. The estates set up in the United Kingdom during the 1930s contributed to the creation of employment opportunities in specified depressed areas. Industrial estates have been regarded as being the best and most economical tools for promoting the development of manufacturing industries especially of the medium and small-scale sectors in the countries in the process of industrialization. Industrial estates can be profitably used as a stimulus to industrialization. It is however doubtful whether those can act as a catalyst simply on their own.

### Definition:

The earliest definition of industrial estate was provided by Dr. William Bredo in 1960, which described it as a tract of land sub-divided and developed according to a comprehensive plan for the use of a community of industrial enterprises. The concept was further elaborated by Dr. P.C. Alexander in 1961 - 62 and described as a group of factories constructed on economic scale in suitable sites with facilities of water, transport, electricity, steam, bank, post office, canteen, watch and ward and first-aid and provided with special arrangements for technical guidance and common service facilities. The United Nations in the publication entitled "Policies and Programmes for the Establishment of Industrial Estates" define an industrial estate as a planned clustering of industrial enterprises offering standard factory buildings erected in advance of demand and a variety of services and facilities to the occupants. The other terms commonly used in this connexion are industrial areas, industrial parks, industrial districts and industrial zones. The main difference of these vis-à-vis industrial estates is neither of them provides for constructed work sheds in advance of the demand. The main characteristics of the concept are given in Appendix A.

### Broad Objectives:

The objectives of industrial estates may be classified in three inter-related though distinguishable groups. These are:

1. Industrial estates as sub-systems of industrial and regional development ensuring environmental conservation and preventing urban congestion.
2. Industrial estates as catalyst for creating an environment for industrial growth.

3. Industrial estates as instruments for serving specific purposes.

For the Government and its institutions an estate programme is one tool only and it has to be used to the job for which it is best suited. So it must have organic linkages with the region in which it is located and have a role to play in the development of that region. The governments frequently allocated primary objective to the programme to create employment and to generate additional output and secondary objective as removal of industry from cities to relieve congestion.

Specific Purposes:

The variety of role allocated to industrial estates in different sets of circumstances is:

1. Encouraging industrial growth in a specific area to provide employment and to offset periodic irregularities in agro-employment.
2. Promotion of indigenous entrepreneurship.
3. Boosting up growth of medium and modern small industrial sector.
4. Achieving economics of concentration in industrial development in relation to services, communications and other facilities.
5. Exploitation of natural resources.
6. Creating conditions which will attract foreign investment and entrepreneurship.
7. Decentralization of industry as a counter to urban concentration and zoning of industry in relation to town planning.
8. Exploitation of advantages of locations, such as river, sea, airports etc.
9. Strategic distribution of industry and/or of population.
10. Modernisation of existing enterprises and facilitating their expansion.
11. Achieving commercial profits in privately sponsored industrial estates.
12. Advancing national economic development and more even income distribution.
13. To induct in the industrial sector groups of skilled and technically qualified persons.

### Pre-Requisites:

An industrial estate is of course a business venture even if it is not required to show a profit in the generally accepted sense of the term. It often involves considerable involvement of public and private funds and the element of risk inherent in any new venture. It is the duty of the prudent management to minimise risk in decision making by ensuring that all relevant factors are taken into account and appropriate information collected in the course of studies. At the same time industrial estate is a promotional instrument and not a real estate operation. Further it is not an overall development programme, particularly for the small-scale sector. This programme will have only a limited impact if it does not integrate all or most of the other facilities and if it is not a part of the general programme for development of industry.

The industrial estates programme needs to be complemented by various measures of promotion including technical and management advisory services, fiscal and financial incentives, infrastructure development, common service facilities, training facilities and so on. Before it is taken up assessment will have to be done of the (a) existing and potential demand for manufactured goods in the specified area; (b) resources: human and material, (c) housing and community facilities and workers' transport and (d) techno-economic aspects of each industrial activity which is a candidate for accommodation. It is generally recommended that to ensure better achievements from the use of this tool the first industrial estate should preferably be established in urban or sub-urban areas.

### Types of Industrial Estates:

The classification of industrial estates can be done in various ways. Based on development of land these are placed into three groups namely:

1. Land with suitable infrastructure of which plots are sold or allocated to entrepreneurs and on which they build their own buildings.
2. Land with infrastructure divided into plots which are either offered for sale or rental to entrepreneurs to construct their own factories or on which standard factories are constructed by the estate authority and are offered for sale or rented.
3. Land divided into plots on which standard factories are constructed for rental and where services are provided.

The first two are categorized as industrial areas, industrial zones or industrial parks.

Another way to classify the industrial estates is the purpose for which those are established, such as:

1. For promotion of new industries in areas to provide additional employment opportunities and for economic development.
2. For development of backward areas through introduction of industries from without and the establishment of new industries and entrepreneurship from within.
3. For relocation to improve environmental conditions.

The third manner of categorising the industrial estates envelops miscellaneous criteria, as is evident from the following:

1. General purpose industrial estates accommodating manufacture of variety of products having little linkages or inter-association.
2. Industrial estates for ancilliarisation.
3. Single trade enterprises industrial estates.
4. Functional industrial estates where there are establishments making components and sub-assemblies of a specific end-product.
5. Technocrates industrial estates engaged in production of sophisticated products involving high level of skills.
6. Craftsmen industrial estates concentrating upon widening the orbit of production of the artisans.
7. Co-operative industrial estates established by an association of manufacturers.
8. Commercial estates promoted also for service operations.
9. Industrial estates classified by their location in metropolitan and big cities or in small towns or in rural areas.
10. Industrial estates grouped by type of sponsorship, such as Government or private or by a corporation.

Promotion Aspects:

The industrial estates by public institutions are usually promoted keeping in view the extent to which those will help in increasing industrial output and productivity creating employment opportunities, enhancing national industrial fabric, causing economic development and helping in decentralization, regional development and removing congestion in urban areas. While doing so the government also introduces measures for direct financial aid to the enterprises, fiscal concessions, marketing assistance, guaranteeing supplies of raw materials, industrial extension services etc. These offer advantages to the clients.

In order to ensure suitable promotion of the industrial estate having appropriate location the following factors have to be kept in view.

1. Will the estate be situated suitably with respect to national markets, transport routes, raw material resources and skilled labour?
2. Will the estate provide the best and cheapest premises in the selected area?
3. Will there be enough enterprises willing to move into the estate of a given size?
4. Will the industrial facilities and social amenities be enough to attract and to hold industry and personnel from elsewhere?
5. Is the time factor of development favourable in the light of the preceding factors?

Requirements of Potential Occupants:

It has been the experience of many countries that more often than not the major cause of sickness among small-scale units is the shortage of circulating capital which occurs, since those frequently underestimate the investment at planning stage and spend more on land, buildings and machinery. Industrial estates substantially relieve them of such investments and thus help them to tread a path of better chances of success. Otherwise also what they have to pay is lower than the normal level of cost or rent. The other aspects which the prospective occupants look for are:

1. Advantage of the estate premises over the present in terms of space, expansion possibilities and working conditions.
2. The extent of compulsion in the policies of urban planning authorities and thus relocating their enterprises.
3. Comparative cost of purchasing or renting land and premises.
4. Proximity to customers, suppliers, markets and the possible risk of competitors taking over favourably located former premises.
5. Possibility of doing business with other firms on the estate or conversely chances of losing business previously enjoyed with other firms.
6. Access to common facilities, such as warehouses, central workshops, training programmes, industrial extension service etc.
7. Eligibility for credit facilities, fiscal and other benefits offered by the government or other public authorities.



There are certain social aspects which too have to be borne in mind while promoting an industrial estate. These are mainly:

1. Development and upgrading of industrial skills;
2. Provision of amenities and common facilities for employees;
3. Ensuring safety and health requirements;
4. Inter-action scope within the local community;
5. Scope for healthy industrial relations and trade Unionism.

Ensuring Success:

The success of an industrial estate and of a programme lies ultimately in the success of participating enterprises. Industry whether on an estate or off it, cannot succeed if national or local purchasing power is insufficient or if the products manufactured do not correspond to market needs. The determination of such market needs should therefore be a major feature for consideration prior to the establishment of an industrial estate. Moreover, under normal circumstances, the types of industry selected for an estate should have relations with human and material resources already available in or which can be attracted to the selected area.

Failure to pay sufficient attention to location, siting, timing and size of the estate and to the infrastructure facilities has frequently resulted in a comparative or even complete failure of an estate. These factors assume particular importance when it is the question of locating an estate in an economically depressed area. The new areas proposed for industrialization many a times pose problems regarding transfer of entrepreneurs, skills and their families since the socio-economic framework to which they are accustomed to is more or less lacking. Industrial estates in such areas generally show better performance if enterprises are run by local people, the size is a moderate one and industrial propositions are selected keeping in view the local requirements and depending as much as possible on those materials and skills in which the locality enjoys a comparative advantage.

The availability of credit is often more important to small industrial enterprises than low rate of interest. Therefore, the attitude of banks in making institutional finances available in time and enough to meet the genuine needs of the medium and small units determines to a significant extent the chances of success. More often than not the bank managers particularly in depressed areas adopt an orthodox approach and are not prepared to extend credit without firmly ensuring its security. This situation has to be at least moderated and for that Credit Guarantee Scheme has to be made effectively operative.

Industrial estates have more frequently been successful which accommodate small ancillary industries to cluster around the 'mother nucleus plant' in the large-scale sector as 'satellites', to make supplies to it or to manufacture products using materials produced by it. For maintenance of quality and other production standards the nucleus plant should provide elaborate controls. Even where no organic work-relationship exists between the large and small firms an estate containing mixed sizes stood a better chance of developing successfully, than those composed solely of small-scale units since large firms in addition to providing sub-contracts to or using in some other ways the services of smaller firms, could assist in matters pertaining to management, production, personnel and even at times financing. At times in such cases it also becomes possible to make use of the utilities developed by the nucleus plant for itself when those can carry additional load and thus the overall cost of the industrial estate to the promoting agency gets reduced.

Industrial Estates and Industrially Depressed Areas:

The depressed areas lack sound physical infrastructure, adequate network of financial institutions, mechanism of trade, government administrative set up and local entrepreneurship. The size of market and potentials for mobilising requisite technical skills and propensity to save are the other limitations of course, industrial estates form a valid means of developing industry in areas at the lowest level of industrial development. The programme however, so oriented, demands substantial inputs of financial, technical and training resources at least over a period of ten years and have to be considered as part of the overall costs of the area industrial development. There the entrepreneurs have to be groomed closely and continuously at first to inplant in them sound industrial "habits". To launch the first industrial estate in a depressed area at a minimum cost and to get firms into operation it may be necessary to compromise with the standards of buildings, roads, working conditions and the like factors. No compromise, however, can be accepted in technical services and sources of power. The size of the industrial estate has to be carefully selected keeping in view the identified demand and for future potentials the creation should be such that expansion could be possible. If the programme is well timed then it is also desirable that entrepreneurs and their key staff is trained and machinery ordered while the estate is being constructed.

The general conditions for industrial estates and their conduciveness to success of industrial development programmes in depressed areas are summarized as follows:

1. Concentration of population with sufficient purchasing power to constitute market for a diversity of products and services which can be supplied by a number of small firms and artisan industries.
2. Entrepreneurs should be able and willing to take advantage of facilities and benefits offered by industrial estates.

3. A nucleus of skilled workers or of workers who can be trained in various skills.
4. Clear cut and consistent government policies with respect to the aims and objectives of the estates programme and the willingness to provide the necessary incentives.
5. Existence of government institutions capable of planning and implementing the programmes with ability to screen potential occupants and financial institutions' willingness to provide credit facilities.
6. Provision of adequate infrastructure in terms of water, electricity, transport and communication, warehousing, sewerage etc. in the estates.
7. Provision in adequate number of staff trained and experienced in industrial estates promotion and management as well as technical staff capable of operating industrial extension service and common facilities programmes.

Conclusion:

Industrial estate/areas programme has proven efficacy for assisting in achieving accelerated growth of industries in the potential areas. However, if it is not properly timed, or coupled with other complementary programmes, location is inappropriate or institutional framework is not there, then it results in a very expensive exercise which certainly does not yield commensurate results in the shape of industrial development vis-à-vis the quantum of various input. At times in that situation the industrial climate and confidence of indigenous entrepreneurship is seriously damaged.

MAIN CHARACTERISTICS OF DIFFERENT CONCEPTS

Characteristics	Industrial District	Industrial Park	Industrial Zone
SPACE AND ZONING	<ol style="list-style-type: none"><li>1. Subdivided tract of land.</li><li>2. Constituter a part of comprehensive city plan.</li><li>3. Use by a group or community of industries.</li></ol>	<ol style="list-style-type: none"><li>1. Adequate size.</li><li>2. Emphasis on openness or low-density occupancy.</li><li>3. Use by a substantial number of industries.</li></ol>	<ol style="list-style-type: none"><li>1. Tracts of land designated for industrial use in the comprehensive plans.</li><li>2. Essentially a <u>concept</u> related to use of land.</li><li>3. Undeveloped land.</li></ol>
FACILITIES AND SERVICES	<ol style="list-style-type: none"><li>1. Suitably located with reference to transportation routes and adequately serviced with utilities.</li><li>2. No factory buildings.</li></ol>	<ol style="list-style-type: none"><li>1. Planned <u>character</u> of utilities, services and other facilities.</li><li>2. No factory buildings.</li></ol>	<ol style="list-style-type: none"><li>1. No provision for facilities and services.</li><li>2. No factory buildings.</li></ol>
PERFORMANCE AND CONTROLS	<ol style="list-style-type: none"><li>1. Adequate control of the area and <u>buildings</u> through restrictions and zoning.</li><li>2. Protection to the investment of sponsors and industrialists.</li></ol>	<ol style="list-style-type: none"><li>1. Architectural controls to achieve a park-like character.</li><li>2. Insistence on performance characteristics before and after admission of industrial units.</li><li>3. Compatibility with surrounding areas.</li></ol>	<ol style="list-style-type: none"><li>1. No control on the use of land after sold.</li></ol>
SPONSORSHIP AND MANAGEMENT	<ol style="list-style-type: none"><li>1. Managerial organization of controls.</li></ol>	<ol style="list-style-type: none"><li>1. Provision of a continuing management.</li></ol>	<ol style="list-style-type: none"><li>1. No provision for any direct or indirect management.</li></ol>

continued overleaf

Industrial Area

Industrial Estate

1. Tract of developed land.

1. Improved tract of land.

2. Minimum size to ensure economies in construction.

1. Transportation facilities, internal roads, streets and installation of utilities.

1. Network of utilities and facilities like water, transport, electricity, steam, post offices, banks, watch and ward etc.

2. No factory buildings.

2. Planned cluster of standard industrial buildings.

3. Specialised services like raw material depots, show rooms, common facility centres.

1. Protective controls regarding buildings design.

1. Comprehensive network of policies on admission, additions or modifications in buildings, rentals, leases, maintenance etc.

2. Controls on activities exercised.

1. Management control by the sponsoring organization.

1. Management develops and exercises criteria for admission.

2. Clear cut policies on rents, maintenance and modifications in estate buildings.

3. A continuing management.

